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ABSTRACT

The study presents a ten-year projection of pupil population in the district determined by the survival technique using city census, postal receipts, agricultural employment, school census, building permits, and birth rates as indicators of future school membership. The existing school buildings were surveyed for strengths and shortcomings and a replacement schedule for some buildings was suggested in addition to improved maintenance programs. In view of the potential decline in the pupil population, there was no need for additional classroom space except to replace substandard facilities presently in existence, or to bolster the existing school curriculum. The study reviewed the bonding capacity of the district and determined that the financial ability of the district was more than sufficient to meet the cost of the proposed building improvement program. (JZ)

ED037032

# SCHOOL BUILDING SURVEY

# FOR

# WILLCOX, ARIZONA

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EF 001 405

August 1967

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COLLEGE OF EDUCATION
BUREAU OF EDUCATIONAL
RESEARCH AND SERVICE

August 28, 1967

Letter of Transmittal

Mr. James C. Henderson
Superintendent of Schools
Willcox, Arizona

Dear Superintendent Henderson:

Herewith is transmitted through you to the Board of Education the School Building Survey For Willcox, Arizona, made by the Bureau of Educational Research and Service, College of Education, The University of Arizona. The survey was undertaken and this report was written in compliance with the terms of a written agreement between the Bureau and the Board of Education of School District 13. A few details of the agreement are reported in the introductory chapter.

In presenting this report to you and the school board we in the Bureau of Educational Research and Service wish to record our appreciation for the excellent cooperation we received from you, your staff, and members of the community. It has been a pleasure to serve you.

Sincerely yours,

Marsden B. Stokes

Marsden B. Stokes
Director
Bureau of Educational
Research and Service

MBS/b

TABLE OF CONTENTS


| | | Page |
|---|---|---|
| Letter of Transmittal | | ii |
| Table of Contents | | iii |
| List of Tables | | v |
| Chapter | | |
| I | PURPOSE AND SCOPE OF THE SURVEY | 1/1 |
| II | SCHOOL MEMBERSHIP | 2/1 |
| | The City of Willcox Has Been Growing In Population | 2/1 |
| | Postal Receipts Have Increased Significantly | 2/2 |
| | Recently the Trend In Agricultural Employment Has Been Downward During The School Year | 2/4 |
| | A School Census Indicates Decreasing Numbers Of Children Entering School | 2/7 |
| | School Membership Increased Until The 1966-1967 Academic Year | 2/10 |
| | The Willcox Building Permits Record Suggests Confidence In Community Development | 2/15 |
| | Membership Predictions Suggest The Possibility Of A Significant Pattern Of Change During The Decade Ahead | 2/18 |
| III | SCHOOL PLANT FACILITIES | 3/1 |
| | Selected School Plant Standards Are Reviewed | 3/1 |
| | The Willcox School Facilities Are Described | 3/10 |
| | The Elementary School Has Many Commendable Features But Some Major Aspects Of The Plant Are Substandard | 3/11 |

| Chapter | | Page |
|---|---|---|
| | The Buildings For The Junior High School And The High School Are Arranged On A Campus Plan | 3/16 |
| | There Are School Plant Facilities Problems And Needs | 3/23 |
| | Maintenance And Improvement Should Continue | 3/23 |
| | Building Facility Needs Will Vary But Some Additions Are Recommended | 3/25 |
| IV | THE FINANCIAL PICTURE | 4/1 |
| | The Costs Are Estimated | 4/1 |
| | The District Has The Bonding Capacity To Finance The Program | 4/4 |
| | The Proposed Building Program Would Not Create A Tax Overburden | 4/5 |
| | School Costs In The Willcox District Are Reasonable | 4/6 |
| | The Assessed Valuation Is Climbing Significantly | 4/7 |
| | Tax Increases Could Be Kept Low By Coordinating A New Bond Redemption Schedule With The Existing One | 4/9 |
| V | SUMMARY AND GENERAL CONCLUSION | 5/1 |

## LIST OF TABLES


| Table | | Page |
|---|---|---|
| 2.1 | Population Growth In The City Of Willcox Selected Years 1940-1965, Inclusive | 2/2 |
| 2.2 | Postal Receipts, Willcox, Arizona - Calendar Years 1946-1966, Inclusive | 2/3 |
| 2.3 | Agricultural Employment In The Willcox Agricultural Labor Market Area, January 1960 Through May 1967, Inclusive | 2/5 |
| 2.4 | Agricultural Employment In The Willcox Area And Willcox School District Peak Membership School Years 1960-1961 Through 1966-1967, Inclusive | 2/7 |
| 2.5 | Census Of School-Age And Pre-School-Age Children Willcox School District May 1967 | 2/8 |
| 2.6 | Year-End Memberships For Willcox Elementary School District 1956-1957 Through 1966-1967, Inclusive | 2/11 |
| 2.7 | October Memberships For Willcox High School 1956-1957 Through 1966-1967, Inclusive | 2/12 |
| 2.8 | Estimated Total Peak Memberships, Grades 1 - 12, Willcox Public Schools 1956-1957 Through 1966-1967, Inclusive | 2/13 |
| 2.9 | Comparison Of School Memberships Of October 10, 1966 With Those Of May 4, 1967, Willcox Public Schools. | 2/14 |
| 2.10 | Building Permits For The City Of Willcox January 1, 1958 Through June 6, 1967, Inclusive | 2/16 |
| 2.11 | Average Of Yearly Changes In Peak Membership In Willcox Public Schools As Classes Progressed From One Grade To The Next 1956-1957 Through 1965-1966, Inclusive | 2/18 |
| 2.12 | Estimates Of Peak Memberships In Willcox Public Schools 1967-1968 Through 1976-1977, Inclusive. | 2/20 |

| Table | | Page |
|---|---|---|
| 3.1 | Numbers Of Classrooms Needed In The Willcox Elementary School 1967-1968 Through 1976-1977, On The Basis Of Peak Membership Estimates | 3/7 |
| 3.2 | Usage Of General Classrooms In The Willcox Junior High School Buildings, October 1966 | 3/31 |
| 3.3 | Usage Of General Purpose Classrooms In The Willcox High School Buildings October, 1966 | 3/36 |
| 3.4 | Usage Of Special Classrooms And Instructional Areas In Willcox High School, October, 1966 | 3/37 |
| 4.1 | A Comparison Of Willcox Combined School District Tax Rates With Those Of The Other School Districts In Cochise County Having Memberships In Excess Of 600 Pupils, 1958-1966, Inclusive | 4/5 |
| 4.2 | A Comparison Of Total Current Expenses Per Pupil In Average Daily Attendance 1959-1966, Inclusive | 4/7 |
| 4.3 | Assessed Valuations In The Willcox School District And In The City Of Willcox 1958-1966, Inclusive | 4/8 |

# CHAPTER I

## PURPOSE AND SCOPE OF THE SURVEY

One of the basic responsibilities of a district school board in the State of Arizona is the management and control of school property within its district. Boards have the authority and the responsibility to purchase school furniture, apparatus, equipment, library books, and supplies for the use of the schools. Boards of trustees and boards of education may rent, furnish, repair, and insure the school property of the districts. Furthermore, as indicated in the Arizona Revised Statutes 15-445, they shall construct school buildings when directed to do so by a vote of the people in their district.

These authorities and responsibilities place upon school boards, and in turn upon their administrative officers, the duty to be wise and prudent in the management of school plant facilities. Boards have the obligation to provide the best environment for learning for the children and youth of the school district that it is possible to make available without placing unnecessarily heavy tax burdens upon the citizens. This would indicate that it is the duty of a school board to spend money wisely not only for the upkeep and repair of the existing facilities, equipment, and furnishing but also for the procurement of additions from time to time as such may be needed.

Mindful of the above responsibilities and aware of the fact that good management includes careful immediate and long-range planning,

the Board of Education of School District #13, Cochise County, Arizona, entered into an agreement for educational services with the Bureau of Educational Research and Service of the College of Education, The University of Arizona. The agreement specified in part the following services to be performed by the Bureau:

A. An evaluation of the existing school plant facilities with respect to sites, buildings, service systems, classrooms, special rooms, the extent to which buildings are utilized and the general needs of each building to better serve the educational program.

B. A brief review of the present educational program provided by School District #13 as it relates to the needs of the community and to a building program.

C. A study of population growth indicators in the district and of school membership trends with estimates of future school membership as a basis for present and future school building needs. Included in this aspect of the survey will be planning work in assisting the district to obtain a pre-school census.

D. A proposed building program, including future site needs, with definite steps of development for housing kindergarten through twelfth grade, inclusive.

E. A study of the financial requirements of the building program, the ability of the district to support it, together with recommended procedures for financing it.

The above excerpt from the agreement quite accurately indicates the scope of the survey. The basic purpose has been to assist the board of education and the administration of the Willcox Public Schools

in providing opportunities for the best educational program reasonably possible for the children and youth of the district.

This publication is a report of the survey. In Chapter II the school membership situation is analyzed. Chapter III considers school plant facilities including problems and needs together with recommendations. The financial picture is reviewed in Chapter IV and the final or fifth chapter, contains a summary and the conclusions.

CHAPTER II

# SCHOOL MEMBERSHIP

A school district that is considering plans for school physical plant improvement and possible expansion must give attention to the number of pupils that may need to be housed.

Consequently, it is a matter of primary importance to determine as accurately as possible the number of pupils who may reasonably be expected to be in membership in future years. The size of future school populations, however, can only be estimated since there is no known method of predicting future membership with guaranteed accuracy.

In making estimates it is necessary to take into consideration available data that pertain to factors influencing school membership. These data must then be organized, analyzed, and interpreted as accurately as possible. Then a flexible program of school plant improvement and enlargement should be planned that can be altered if, in subsequent years, it is found that actual school membership deviates markedly from prior estimates.

The present chapter discusses selected factors related to school membership in the Willcox Public Schools. Data are presented that help portray the growth of the school district. In the latter part of the chapter, estimates of future school membership are given.

## THE CITY OF WILLCOX HAS BEEN GROWING IN POPULATION

The United States Bureau of the Census takes an official count of all residents of the nation every ten years. The enumerations are made

by such civil government subdivisions as cities, villages, and townships, but not by school districts. Reference to census information for a political subdivision that constitutes a significant portion of the population of a school district may, however, provide an important indication of the population growth in the district itself. For this reason an examination was made of the population growth in the City of Willcox.

Official census figures together with certain population estimates, made by the Willcox Chamber of Commerce, are presented in Table 2.1.

TABLE 2.1

Population Growth In The City Of Willcox, Selected Years 1940-1965, Inclusive

| Year | Population | Year | Population |
|---|---|---|---|
| 1940 | 884* | 1960 | 2,441* |
| 1950 | 1,266* | 1961 | 2,490 |
| 1955 | 1,810 | 1962 | 2,540 |
| 1956 | 1,808 | 1963 | 2,670 |
| 1957 | 1,888 | 1964 | 2,750 |
| 1958 | 2,168 | 1965 | 3,018** |
| 1959 | 2,318 | | |

* Official U. S. Census figures. All other figures are estimates made by the Willcox Chamber of Commerce.
** Special U. S. Census taken in October of 1965.

## POSTAL RECEIPTS HAVE INCREASED SIGNIFICANTLY

Postal receipts are an indication of the trends in development of an area. Increased receipts of a post office suggest the possibilities

of increased population, greater volume of agricultural production, and growth of business and industry.

Postal receipts at Willcox, excluding money order fees, for the years 1955 through 1966, inclusive, are presented in Table 2.2. During this period of time these receipts climbed from $30,176.14 to $79,010.54, a total increase of over 161 per cent. This averages out to an increase of $4,439.49 per year.

TABLE 2.2

Postal Receipts, Willcox, Arizona - Calendar Years 1946-1966, Inclusive

| Calendar Year | Total Receipts (Excluding M.O. Fees) | Calendar Year | Total Receipts (Excluding M.O. Fees) |
|---|---|---|---|
| 1955 | $30,176.14 | 1961 | $58,109.85 |
| 1956 | 30,503.62 | 1962 | 58,298.90 |
| 1957 | 31,184.00 | 1963 | 72,028.43 |
| 1958 | 46,297.00 | 1964 | 76,952.74 |
| 1959 | 50,817.00 | 1965 | 77,244.23 |
| 1960 | 54,035.00 | 1966 | 79,010.54 |

According to the Willcox Postmaster, Mr. Dick Groves, the large increase in receipts in 1958 over those of 1957 was influenced by heavy plantings of lettuce, especially in the Kansas Settlement area of the school district. Mr. Groves also pointed out that the large difference in receipts between 1963 and 1962 was a reflection of the postage rate increase from four to five cents on first class mail.

This 15-year upward trend in postal receipts shown in Table 2.2 is a continuation of previous trends. It was noted that the receipts in 1946 were $14,888.20 and that the increase was gradual from year to year prior to 1955.

The above trends in postal receipts, then, suggest confidence in the stability and growth of the Willcox area. They leave the researcher the impression that at least modest provision of additional school facilities for future use would be justified.

## RECENTLY THE TREND IN AGRICULTURAL EMPLOYMENT HAS BEEN DOWNWARD DURING THE SCHOOL YEAR

It was felt that a study of trends in agricultural employment in the Willcox labor market area might be helpful in analyzing the school membership situation. Consequently, the data were gathered at the Willcox Farm Labor Branch Office, Arizona State Employment Service. Figures representing the total number of persons employed month by month from January 1960 through May 1967, inclusive, were obtained and are recorded here in Table 2.3.

From the Table it may be seen that, except for 1966, the trend in total numbers of persons employed in agricultural labor has been downward since 1960. It should be understood that the totals for each year merely represent a summation of the number of persons employed month by month. In fact, even the monthly figures shown in the table do not mean that the number of persons recorded for any given month actually worked all month. Monthly figures, then, merely refer to total number of persons who worked at one time or another during the month.

TABLE 2.3

Agricultural Employment In The Willcox Agricultural Labor Market Area, January 1960 Through May 1967, Inclusive

| | Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Month | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 |
| Jan | 1,010* | 1,315 | 1,012 | 1,012 | 465 | 680 | 458 | 680 |
| Feb | 1,185 | 1,289 | 1,151 | 1,156 | 480 | 675 | 442 | 630 |
| Mar | 1,321 | 1,404 | 1,357 | 1,406 | 1,145 | 970 | 1,187 | 825 |
| Apr | 1,625 | 1,618 | 1,657 | 1,560 | 1,143 | 1,030 | 1,357 | 830 |
| May | 1,420 | 1,388 | 1,671 | 1,740 | 1,822 | 1,380 | 1,480 | (1,000) |
| Jun | 1,515 | 2,397 | 2,182 | 1,847 | 1,385 | 1,430 | 1,365 | |
| Jul | 1,410 | 1,630 | 1,585 | 1,460 | 865 | 855 | 925 | |
| Aug | 2,084 | 1,993 | 2,120 | 1,562 | 1,015 | 1,030 | 995 | |
| Sept | 2,480 | 1,567 | 1,470 | 1,542 | 973 | 649 | 1,075 | |
| Oct | 3,120 | 2,974 | 2,010 | 2,434 | 1,467 | 1,222 | 1,253 | |
| Nov | 1,950 | 1,440 | 1,205 | 1,200 | 405 | 818 | 812 | |
| Dec | 1,133 | 1,050 | 1,245 | 1,218 | 550 | 594 | 680 | |
| Totals | 20,253 | 20,065 | 18,665 | 18,137 | 11,715 | 11,323 | 12,029 | |
| Monthly Averages | 1,688 | 1,672 | 1,555 | 1,511 | 976 | 946 | 1,002 | ( 792) |

*These figures represent the total number of persons employed during the month. Figures are taken from The Economic Impact of a Changing Agricultural Labor Market, a 1964 publication of the Employment Security Commission of Arizona, Farm Placement Section. Current figures were obtained in an interview with Arthur Gentner, Manager of the Willcox Farm Labor Branch Office, Arizona State Employment Service.
The dramatic decline between 1963 and 1964 was the result of a 50 per cent cutback in lettuce production. Gradual mechanization accounts for the steady decline. Lettuce is being replaced by grain sorghums, in large part.

Table 2.3 also indicates that April, May, and June have been the months in the first half of the calendar year when the most persons have been employed in agricultural labor; October has consistenly been the peak month in the second half of the year.

These data pertaining to peak months of agricultural labor employment corresponded with other information that indicated that the peak months of school membership tended to be in October (especially for the high school) and in the last weeks of the school year (particularly for the elementary grades). The data on agricultural employment trends year by year, however, did not seem to be in agreement with school membership trends; that is, agricultural employment was decreasing while school membership was increasing. Therefore, it was decided that this matter would be investigated further and Table 2.4 was prepared.

For Table 2.4 the average monthly agricultural employment was calculated for the school years 1960-1961 through 1966-1967; that is, employment figures were computed for the months September through the next May. This was done so that more valid comparisons could be made with peak school memberships school year by school year. Percentages of change in agricultural employment and school membership from year to year were then computed as shown in the table. This procedure revealed, merely by inspection, that there was little or no relationship between the two sets of data for the years studied. It would seem, then, that a study of the extent of employment of agricultural labor in the Willcox area is of no particular help in projecting future school membership.

Other factors perhaps have been more influential in determining membership trends. Nevertheless, hidden among the variables may be some significance, for membership projection, to the fact that the trend in agricultural employment has been downward.

TABLE 2.4

Agricultural Employment In The Willcox Market Area and Willcox School District Peak Membership School Years 1960-1961 Through 1966-1967, Inclusive

| Agricultural Employment | | | Public School Membership | | |
|---|---|---|---|---|---|
| Period Covered* | Average Monthly Employment | Percentage of Change | School Year | Total (Peak) Membership | Percentage of Change |
| 1960-1961 | 1,744 | ___ | 1960-1961 | 1,242 | ___ |
| 1961-1962 | 1,542 | -12% | 1961-1962 | 1,244 | 0% |
| 1962-1963 | 1,423 | - 8% | 1962-1963 | 1,386 | +11% |
| 1963-1964 | 1,272 | -11% | 1963-1964 | 1,522 | +10% |
| 1964-1965 | 903 | -29% | 1964-1965 | 1,545 | + 2% |
| 1965-1966 | 911 | + 1% | 1965-1966 | 1,655 | + 7% |
| 1966-1967 | 865 | - 5% | 1966-1967 | 1,638 | - 1% |

* Periods covered in each year: September 1st of one year, through May 31st of the next.

## A SCHOOL CENSUS INDICATES DECREASING NUMBERS OF CHILDREN ENTERING SCHOOL

A school census can be helpful in estimating future school membership, especially in ascertaining the number of children in a district who will be entering elementary school in the years in the immediate

future. For this reason it was decided to conduct a census of the school age and pre-school-age children and youth in the Willcox school district. The Bureau developed a family census survey card; the district had cards printed; and under the supervision of the Superintendent of Schools, volunteers from the school system and from service organizations in the Willcox area made a house to house enumeration of the children and youth. The Bureau then made a tally of these children and youth, the results of which are presented in Table 2.5.

TABLE 2.5

Census of School-Age and Pre-School-Age Children
Willcox School District, May 1967

| Grade and School Year | Enumeration of Children & Youth | Grade and School Year | Enumeration of Children & Youth |
|---|---|---|---|
| 1 in 1973-74 | 21* | 4 in 1967-68 | 109 |
| 1 in 1972-73 | 81 | 5 in 1967-68 | 148 |
| 1 in 1971-72 | 83 | 6 in 1967-68 | 144 |
| 1 in 1970-71 | 120 | 7 in 1967-68 | 145 |
| 1 in 1969-70 | 122 | 8 in 1967-68 | 116 |
| 1 in 1968-69 | 128 | 9 in 1967-68 | 143 |
| 1 in 1967-68 | 158 | 10 in 1967-68 | 118 |
| 2 in 1967-68 | 162 | 11 in 1967-68 | 116 |
| 3 in 1967-68 | 170 | 12 in 1967-68 | 89 |

* This figure represents an enumeration of children born during the first four months of 1967 only.

The first and third columns of Table 2.5 indicate the grade in school that the children will be in at the time stated. Columns 2 and

4 show how many children were enumerated for each grade. The figures were tabulated on the basis of the grade each child, who was already in school, would be in during the 1967-68 school year if he or she was promoted. Comparisons of the census with the actual school memberships, grade by grade, for the period of time during which the census was taken gave assurance that a rather thorough-going job of enumerating the children had been done for those children who were in school. This led to the assumption that the pre-school children also had been carefully identified.

The findings of the school census may be summarized to the effect that steadily decreasing numbers of children may be expected to be entering school in the years immediately ahead, unless some unforeseen development results in the move-in of large numbers of families with young children.

It is interesting to note that the decrease in numbers of children in early childhood in the Willcox school district is in harmony with the condition nationally. The birth rate in the United States reached its peak in 1957 when the number of babies born to women in the 15 through 44 aged group reached about 123 per thousand women. In the nine years since that date the rate has been steadily downward to a low of about 93 infants per 1,000 women in 1966. Also, 1957 was the peak year in the nation for the number of babies born and the trend has been generally downward since that date with each year since 1961 recording fewer children born than the year before.

## SCHOOL MEMBERSHIP INCREASED UNTIL THE 1966-1967 ACADEMIC YEAR

In general, study of school memberships during past years provides one of the best indicators as to what future trends in membership may be. Certainly, previous trends must be considered but they must not be used exclusively while other available data are ignored. Bureau personnel assembled and analyzed certain membership information about the Willcox schools for the years 1956-1957 through 1966-1967, inclusive. In Tables 2.6 through 2.9 principal findings are presented.

In Table 2.6 may be found the year-end membership figures for Kindergarten and Grades 1-8. Year-end figures were used because it was ascertained that peak membership in the Willcox Elementary School District has tended to occur at or near the end of the school year. Furthermore, peak membership, that is the membership when the greatest number of children belonged to the school, was wanted because school officials need to provide facilities for all the children who come to school. The table shows that in the 1956-1957 school year the year-end membership in the first four grades totaled 372 pupils. Except for the 1958-1959 year, the membership increased each year until 1964-1965 when it decreased by only one pupil from the previous year. In 1965-1966 it moved upward again to a total of 645 pupils. It is important to note, however, that near the close of 1966-1967 the membership in the four lower grades, those that are housed at the central elementary school, went downward to 600 pupils. This later finding became a matter of deep concern when future membership was later estimated.

TABLE 2.6

Year-End Memberships For Willcox Elementary School District 1956-1957 Through 1966-1967, Inclusive

| | Number of Pupils by School Year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Grade | 1956 1957 | 1957 1958 | 1958 1959 | 1959 1960 | 1960 1961 | 1961 1962 | 1962 1963 | 1963 1964 | 1964 1965 | 1965 1966 | 1966 1967* |
| K | -- | -- | -- | -- | -- | -- | 99 | 82 | 94 | 105 | 114 |
| 1 | 88 | 137 | 133 | 141 | 133 | 149 | 156 | 178 | 170 | 184 | 170 |
| 2 | 97 | 103 | 107 | 117 | 123 | 123 | 143 | 160 | 166 | 155 | 161 |
| 3 | 100 | 108 | 106 | 115 | 128 | 120 | 134 | 144 | 143 | 162 | 117 |
| 4 | 87 | 111 | 100 | 104 | 111 | 122 | 128 | 136 | 138 | 144 | 152 |
| 1-4 | 372 | 459 | 446 | 477 | 495 | 514 | 561 | 618 | 617 | 645 | 600 |
| 5 | 82 | 96 | 116 | 99 | 108 | 111 | 128 | 130 | 123 | 149 | 145 |
| 6 | 63 | 96 | 102 | 105 | 112 | 107 | 122 | 135 | 133 | 133 | 143 |
| 7 | 67 | 74 | 95 | 100 | 108 | 104 | 117 | 133 | 134 | 140 | 121 |
| 8 | 73 | 65 | 72 | 85 | 99 | 103 | 97 | 111 | 125 | 135 | 134 |
| 5-8 | 285 | 331 | 385 | 389 | 427 | 425 | 464 | 509 | 515 | 557 | 543 |
| 1-8 | 657 | 790 | 831 | 866 | 922 | 939 | 1025 | 1127 | 1132 | 1202 | 1143 |

* Figures for 1966-1967 are close estimates based on membership the first part of May 1967.

When the membership for all elementary grades, excluding kindergarten, was totaled for each of the years listed in Table 2.6 it was noted that the grades 1-8 total membership actually went upward each year until 1966-67. The change from 1956-1957 to 1965-1966 was 657 to 1,202 pupils. This was an average increase of nearly 61 pupils per year

and it emphasized the fact that the Willcox school system has consistently needed to add classrooms and teachers. Nevertheless, for the 1966-1967 school year there was a decided decrease in membership from the 1,202 pupils of 1965-1966 to 1,143, an unanticipated loss of 59 pupils that will be reflected in a loss of state and county financial aid for the 1967-1968 school year.

Peak membership in Willcox High School is usually reached during October each school year -- the month that it was previously noted as consistently recording the highest number of agricultural laborers being employed in the area. Therefore, Table 2.7 presents October memberships for the high school. This table reveals the same trend as the previous table indicated; that is, with the exception of one school year, high school membership increased year by year until 1965-1966. The average yearly increase from 1956-1957 to 1965-1966 was 28 pupils but in 1966-1967 a decrease of 15 pupils in October membership was recorded.

TABLE 2.7

October Memberships For Willcox High School
1956-1957 Through 1966-1967, Inclusive

| | Number of Pupils by School Year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Grade | 1956 1957 | 1957 1958 | 1958 1959 | 1959 1960 | 1960 1961 | 1961 1962 | 1962 1963 | 1963 1964 | 1964 1965 | 1965 1966 | 1966 1967 |
| 9 | 57 | 77 | 81 | 81 | 100 | 105 | 114 | 118 | 110 | 136 | 136 |
| 10 | 62 | 62 | 95 | 66 | 74 | 84 | 99 | 107 | 121 | 118 | 123 |
| 11 | 44 | 62 | 59 | 84 | 69 | 64 | 81 | 90 | 92 | 106 | 93 |
| 12 | 39 | 44 | 63 | 50 | 77 | 52 | 67 | 80 | 90 | 93 | 86 |
| 9-12 | 202 | 245 | 298 | 281 | 320 | 305 | 361 | 395 | 413 | 453 | 438 |

In Table 2.8 the total peak memberships for grades 1-12 are given. An examination of these totals shows that the combined peak membership of the entire school system in 1956-1957 was 859 pupils. The membership increased every year until 1965-1966 when it reached 1,655 pupils in the twelve grades. (There were also 105 pupils in Kindergarten membership.) Thus, the year to year increase averaged nearly 89 pupils up to and including 1965-1966. Excluding Kindergarten, there was a loss of 74 pupils in peak membership for the 1966-1967 school year.

TABLE 2.8

Estimated Total Peak Memberships, Grades 1-12,
Willcox Public Schools 1956-1957
Through 1966-1967, Inclusive

| School Year | Total Peak* Memberships | School Year | Total* Peak Memberships |
|---|---|---|---|
| 1956-1957 | 859 | 1963-1963 | 1,886 |
| 1957-1958 | 1,035 | 1963-1964 | 1,522 |
| 1958-1959 | 1,129 | 1964-1965 | 1,545 |
| 1959-1960 | 1,147 | 1965-1966 | 1,655 |
| 1960-1961 | 1,242 | 1966-1967 | 1,581 |
| 1961-1962 | 1,244 | | |

* For each year these totals represent the addition of the year-end membership for the elementary schools to the October membership for the high school. Over the years the elementary membership has tended to be at its peak at school year-end while the high school membership was at its peak early in the school year.

Because of the above-mentioned membership loss in the 1966-1967 school year, it was decided that a comparison should be made of membership

in October and May of that year. As a consequence of that decision, Table 2.9 was prepared. This table served as a further warning that caution should be the by-word in predicting future school membership.

TABLE 2.9

Comparison of School Memberships of October 10, 1966 With Those of May 4, 1967, Willcox Public Schools

| Grade | Membership Oct. 10, 1966 | Membership May 4, 1967 | Change in Membership |
|---|---|---|---|
| K | 115 | 114 | -1 |
| 1 | 178 | 170 | -8 |
| 2 | 174 | 161 | -13 |
| 3 | 130 | 117 | -13 |
| 4 | 157 | 152 | -5 |
| 1-4 | 639 | 600 | -39 |
| 5 | 144 | 145 | +1 |
| 6 | 152 | 143 | -9 |
| 7 | 133 | 121 | -12 |
| 8 | 135 | 134 | -1 |
| 5-8 | 564 | 543 | -21 |
| 9 | 136 | 121 | -15 |
| 10 | 123 | 111 | -12 |
| 11 | 93 | 88 | -5 |
| 12 | 86 | 83 | -3 |
| 9-12 | 438 | 403 | -35 |
| 1-12 | 1,641 | 1,546 | -95 |

It may be noted from the table that on October 10, 1966 there were 1,641 pupils in membership in grades 1-12, while on May 4, 1967 the membership had dropped to 1,546 children and youth. This was a decrease of 95 pupils in seven months and represented a loss of 5.7 per cent in that period of time. Every grade in the school system except the fifth had a decrease in membership.

## THE WILLCOX BUILDING PERMITS RECORD SUGGESTS CONFIDENCE IN COMMUNITY DEVELOPMENT

To acquire further insight into the growth pattern in the Willcox school system, Bureau personnel made contact with persons in possession of building permits information for the City of Willcox. Selected aspects of what was learned are summarized in Table 2.10. The table relates to building permits for the period January 1, 1958 through June 6, 1967, inclusive. During that period of time permits were issued for 272 residence units with a declared value of $2,656,813. The total for all construction authorized by building permits for the period involved was $5,355,497.

The above figures suggest confidence on the part of the community in its future. So does an analysis of the types of construction in addition to residential units. New office buildings, motels, cooler and box plants, grain company facilities, concrete pipe manufacturing plants, heavy equipment repair shops, fertilizer plants, a number of new retail business structures, a new fire station, new city recreation facilities, and several new churches are among the recent improvements in and immediately adjacent to the city. Progress on a new community hospital

is another indication that Willcox looks forward with optimism regarding its future and the future of its market area.

TABLE 2.10

Building Permits For The City of Willcox
January 1, 1958 Through June 6, 1967,
Inclusive.

| | One Family New Residences | | Multiple Family Dwellings | | |
|---|---|---|---|---|---|
| Year | Units | Permit Value | Units | Permit Value | All Construction* |
| 1958 | 112 | $ 938,100.00 | 4 | $ 12,000.00 | $ 1,220,323.00 |
| 1959 | 32 | 343,931.00 | 0 | ---- | 561,483.00 |
| 1960 | 18 | 186,600.00 | 0 | ---- | 372,878.00 |
| 1961 | 5 | 30,400.00 | 0 | ---- | 241,315.00 |
| 1962 | 15 | 117,900.00 | 0 | ---- | 477,889.00 |
| 1963 | 39 | 267,432.00 | 6 | 18,000.00 | 475,160.00 |
| 1964 | 24 | 313,250.00 | 4 | 15,000.00 | 597,175.00 |
| 1965 | 13 | 128,700.00 | 30 | 169,500.00 | 659,441.00 |
| 1966 | 6 | 43,000.00 | 0 | ---- | 146,935.00 |
| 1965 | 7 | 73,000.00 | 0 | ---- | 602,898.00 |

* Includes construction other than residential as well as residential.

To Bureau personnel, the above findings instilled conviction that the school district was justified in moving ahead with plans for certain needed additional school facilities. The picture was not one to suggest, however, that care need not be exercised lest the school district overbuild. For example, it should be noted that only six residential building permits were issued in 1966 at a declared value of only $43,000.00. It may be said by some that this was due to the high interest rates at

that time and this may be true. On the other hand it may indicate a slowing down of growth in the area, at least for the present. The issuance of seven one-family new residence building permits through June 6, 1967, valuated at $73,000.00 was an encouraging sign that the community will continue to move forward.

The fact that the good farm land in the area, that is, the land that is fertile and can readily be irrigated, has practically all been developed in the last few years may suggest a leveling off of the area's growth. Mining and industrial developments could change this picture but it would not be advisable to predict future school membership on these factors at the present time. To do so would logically lead to the suggestion that the school plant be enlarged considerably, particularly with respect to general and special classrooms. This could prove at a later date to have been a more grievious error if such rooms would then stand idle than for the district to put up with crowded conditions while awaiting the completion of more classrooms.

Finally, a conservative projection of future school membership was suggested by two other facts: first, in the preceding year new electric meter connections, installed by the electric power and light company, have been balanced off by disconnections and, second, the school census revealed that there were more vacant residential units in the community than had been thought to be the case.

All of these various factors, discussed so far in Chapter II, had to be considered as the attempt was made to predict future school memberships. In addition the change in membership from grade to grade in past

years needed to receive attention. In the section that follows a report of this latter item is presented and estimates of peak memberships for the next ten years are given.

## MEMBERSHIP PREDICTIONS SUGGEST THE POSSIBILITY OF A SIGNIFICANT PATTERN OF CHANGE DURING THE DECADE AHEAD

As was mentioned in the last paragraph above, attention was given to the change in membership from each school grade to the next succeeding grade. In Table 2.11 the results of an analysis of this

TABLE 2.11

Average of Yearly Changes in Peak Membership In Willcox Public Schools as Classes Progressed From One Grade To The Next 1956-1957 Through 1965-1966, Inclusive

| Grade Progression | Medians of Change in Numbers of Pupils | Means of Change in Numbers of Pupils | % of Change |
|---|---|---|---|
| 1 to 2 | -12 | -10 | -6.8% |
| 2 to 3 | +3 | +2 | +1.8% |
| 3 to 4 | -2 | 0 | -0.6% |
| 4 to 5 | +4 | +3 | +2.2% |
| 5 to 6 | +7 | +6 | +5.2 % |
| 6 to 7 | +3 | +3 | +3.1 % |
| 7 to 8 | -5 | -4 | -4.3 % |
| 8 to 9 | +10 | +9 | +11.1 % |
| 9 to 10 | -7 | -3 | -3.1 % |
| 10 to 11 | -10 | -9 | -9.9 % |
| 11 to 12 | -1 | -5 | -6.5 % |

matter are recorded. Tables 2.6 and 2.7 provided the data for the analysis. The years 1956-1957 through 1965-1966 were used for the computations, since these were the years for which year-end data were available for the elementary schools.

Column 1 of Table 2.11 indicates, in each case, the particular pair of grades for which change in membership was being studied. Column 2 shows the median amount of change that occurred over the nine-year period while Column 3 presents the change on the basis of what is commonly called the arithmatic average (the mean). In the column on the right the percentages of change may be found. A plus sign in front of a number indicates an increase from a given grade to the next higher one; a minus sign represents a decrease.

The percentages listed in Column 4 were rounded off to the nearest whole numbers and used as one of the bases for estimating future membership except as follows: (1) Changes from grades 1 to 2 and from 2 to 3 were projected on the basis of 10 per cent decreases, since it was ascertained through conferences with administrators that this percentage better reflects current policy relative to retention in the lower grades and better adjusts for currently operating "pre-first" and "pre-second" grade programs. (2) Increases from Grade 8 to Grade 9 were calculated at 10 pupils per year to hold constant the addition of tuition students to Grade 9 from neighboring elementary school districts.

In Table 2.12 estimates of peak memberships in the Willcox Public Schools are given for the years 1967-1968 through 1976-1977, inclusive. The term peak membership means the membership at that time in a school

TABLE 2.12

Estimates of Peak Memberships in Willcox Public Schools
1967-1968 Through 1976-1977, Inclusive

| | Number of Pupils by School Year* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Grades | 1967 1968 | 1968 1969 | 1969 1970 | 1970 1971 | 1971 1972 | 1972 1973 | 1973 1974 | 1974 1975 | 1975 1976 | 1976 1977 |
| 1 | 190 | 165 | 155 | 150 | 120 | 120 | 120 | 125 | 130 | 135 |
| 2 | 160 | 171 | 149 | 140 | 140 | 108 | 108 | 108 | 113 | 117 |
| 3 | 145 | 144 | 154 | 134 | 126 | 126 | 97 | 97 | 97 | 102 |
| 4 | 120 | 144 | 143 | 153 | 133 | 125 | 125 | 97 | 97 | 97 |
| 1- 4 | 615 | 624 | 601 | 577 | 519 | 479 | 450 | 427 | 437 | 451 |
| 5 | 155 | 122 | 147 | 146 | 156 | 136 | 128 | 128 | 99 | 99 |
| 6 | 150 | 163 | 128 | 154 | 153 | 164 | 143 | 134 | 134 | 104 |
| 7 | 150 | 155 | 168 | 132 | 159 | 158 | 169 | 147 | 137 | 137 |
| 8 | 115 | 144 | 149 | 161 | 127 | 153 | 152 | 162 | 141 | 132 |
| 5- 8 | 570 | 584 | 592 | 593 | 595 | 611 | 592 | 571 | 511 | 472 |
| 9 | 140 | 125 | 154 | 159 | 171 | 137 | 163 | 162 | 172 | 151 |
| 10 | 120 | 136 | 121 | 149 | 154 | 166 | 133 | 158 | 157 | 167 |
| 11 | 105 | 108 | 122 | 109 | 134 | 139 | 149 | 120 | 142 | 141 |
| 12 | 85 | 99 | 102 | 115 | 102 | 126 | 131 | 140 | 113 | 133 |
| 9-12 | 450 | 468 | 499 | 532 | 561 | 568 | 576 | 580 | 584 | 592 |
| 1-12 | 1635 | 1676 | 1692 | 1702 | 1675 | 1658 | 1618 | 1578 | 1532 | 1515 |

* Not including kindergarten

year when the most children belong to a school. The figures should be considered as mid-points near which the peak memberships will tend to found. That is to say, the peak membership for a given grade for a given

year may be expected to be found as much above as below the estimate given. The figures given should be understood as representing possibilities rather than probabilities. It needs to be emphatically pointed out, too, that conditions could easily occur that would place the membership estimates in error. School officials and the school board must constantly be alert to detect symptoms of changes in membership as early as possible.

The estimates given in the table, then, should not be considered as being absolutely exact. They will be exact only if all the evidence upon which they are based is accurate and if the assumptions made in the process of estimating are fulfilled. They may be expected to be more nearly exact, as a rule, for a given school than for a given grade. Also, one might anticipate that the estimates for the immediately next succeeding years will be more accurate than will those for the years in the more distant future.

Some of the assumptions that must be met, if the predictions are to be accurate are:

(1) Immigration and emigration of children of school-age must continue to follow the established patterns of the past few years and not that of the past year exclusively. A major depression, armed conflict more pronounced than that now in evidence, new mining and industrial developments, or other factors not now influencing the flow of population in the area could result in significant increases or decreases in the number of school-age children in the area.

(2) The birth rate in the area is expected to be relatively low compared with that of the 1940's and 1950's. Also, although the number of births in the district has been decreasing lately, it is assumed that with greater numbers of youth now arriving at the age of marriage, if the youth stay in the community at least in the proportions that they have previously done, some increase in the number of births again may be expected.

(3) Promotion policies of the schools must remain substantially unchanged. Any great change in the proportion of pupils passed from one grade to the next at the end of the school year will cause memberships to differ from estimates. This assumption includes the continuation of present so-called "pre-first" and "pre-second" grades.

Any one of the above factors, any combination of them, or any other social or economic factor not foreseen could act to change the school membership situation drastically and result in actual memberships that would vary from the predictions made herein. It will be necessary to constantly check the membership estimates for accuracy and to exercise continuing vigilance to detect changes that will influence memberships. If such attention is maintained, it will be possible to make adjustments in the predictions from year to year and to readjust long-term school plant planning as needed.

Some significant trends in membership may be detected from a study of Table 2.12. Among other indications is the one that Grade 1 will

have its largest membership during the 1967-1968 school year and that the grade will decrease in size during the next four or five years. Toward the end of the ten-year period an allowance is made for a small increase in Grade 1, again on the assumption that more young married couples will have been starting families.

According to the table, the peak membership in Grades 1-4 should be about 615 pupils in the 1967-68 school year. In 1968-1969 a very slight increase to about 624 is estimated. From that date on it is estimated that there will be a year to year decrease in total peak memberships in these grades until a possible low of 427 pupils is reached in 1974-1975. Thereafter a modest increase is again anticipated.

The membership in Grades 5-8 (made up of pupils who are housed in the junior high school) should be somewhere near 570 at its peak in the 1967-1968 school year. Thereafter it is expected to increase slowly until a high of approximately 611 pupils is reached in 1972-1973. Following this, there is a real possibility that the membership in these grades will decrease rapidly to a low of somewhere near 472 pupils in 1976-1977.

As for the high school, a completely different membership pattern is anticipated from that in the elementary and junior high schools. A continuing upward trend in peak membership is projected for the entire ten-year period, starting with about 450 pupils in the fall of 1967 and going upward to nearly 600 pupils (592) by 1976-1977. The increases are expected to be greater in the first few years of the decade than in the later years.

Table 2.12 shows that when the memberships for grades 1-12 were combined the peak membership estimates for 1967-1968 totaled 1,635 pupils not including kindergarten.[1] An annual increase in totals was obtained until the 1970-1971 school year for which the total came to 1,702 pupils. Thereafter the membership totals drop until a figure of 1,515 pupils in peak membership is reached in 1976-1977. This total was noted to be about the same as that recorded for the 1963-1964 school year.

In summary, then, it may be said that the membership predictions suggest the possibility of a significant pattern of change during the decade ahead. If the estimates are correct, the grades housed at the central elementary school site will reach their highest total number of pupils belonging to the school in 1968-1969 and thereafter for a number of years the trend will be downward. Membership in the junior high school should go upward until about 1972-1973 and then start to taper off.

In contrast, high school membership may be expected to continue upward throughout the ten-year period. What these trends mean for purposes of long-range planning of school plant facilities will be considered in a later chapter.

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[1]Kindergarten membership was not estimated for two reasons: first, because attendance in kindergarten is optional and, second, because it was felt that the present kindergarten facilities would be sufficient to accommodate those children who would be in attendance in the next few years.

CHAPTER III

# SCHOOL PLANT FACILITIES

The primary purpose of this survey and report has been to assist the Willcox public school officials and the school board in planning a long-range school plant facilities program. As was pointed out in the previous chapter, one of the areas of concern in planning such a program is the determination of how many pupils may need to be provided for. A second matter that needs to be considered is an analysis of existing school plant facilities to ascertain how well they provide suitable environments for teaching and learning and to determine to what extent said facilities may reasonably be expected to help meet education needs in the years ahead. Such an analysis was made and the findings are reported in this chapter. First, a summary is submitted of certain standards for school plants; next, a report is given of the elementary, junior high school, and high school facilities; finally, what appear to be the major needs are dicussed.

The present buildings and grounds were observed to possess many good features. Since the purpose of the survey, however, has been to point the way to improvement, the emphasis has necessarily been placed on deficiencies and suggestions for improvement.

## SELECTED SCHOOL PLANT STANDARDS ARE REVIEWED

In this section selected standards for school plants are reviewed.

It is beyond the scope of the study to go into great detail. In the next succeeding section occasionally other standards are mentioned in connection with the description and evaluation of present facilities.

School buildings should be erected on sites that are as conveniently located as possible for the pupils attending them. Sites should be selected in quiet neighborhoods away from commercial and industrial activities and safely isolated from traffic hazzards. Topsoil suitable for the growth of grass, flowers, shrubs, and trees should be sought. Understandably, the surface should be free of rock. Subsoil should provide an adequate base for footings and foundations of buildings. Natural drainage should be away from buildings and away from sites.

The National Council on Schoolhouse Construction suggests the following minimum site sizes:

1. For elementary schools: Ten acres plus an additional acre for each 100 pupils of projected ultimate maximum enrollment.
2. For junior high schools: Twenty acres plus an additional acre for each 100 pupils of projected ultimate maximum enrollment.
3. For senior high schools: Thirty acres plus an additional acre for each 100 pupils of projected ultimate maximum enrollment.[1]

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[1] National Council on Schoolhouse Construction, Research and Publications Committee, NCSC Guide, East Lansing, Michigan: The Council, 1964. p. 27.

The Council is not alone in advocating the above minimum site sizes. School sites are far more than mere playgrounds and locations for buildings; they are fundamental resources utilized in multiple ways in a modern program of education.

School buildings should provide a satisfactory physical environment for the pupils. This means that they should not only provide shelter from the elements but they should be comfortably heated or cooled and ventilated as the season or climate may dictate. They should offer no hazard to life or limb. Even in one-story structures fire prevention and safety from the dangers of fire must always be considered. Means of exit should be conveniently located and close to pupils at all times. Regardless of the other problems involved, under no circumstances should panic bars on exit doors be chain-locked.

Buildings should have a good supply of pure water. Fountains should be of such design as to prevent a pupil from placing his mouth over the orifice and to keep water from falling back into its source. Toilet facilities should be adequate in number and conveniently located. Water closets should be of sanitary water-flush design and should be equipped with open-front seats.

The provision of a good visual environment for learning is essential. Pupils should be afforded the opportunity to see quickly, accurately and without discomfort. Many factors are involved in the achievement of these goals, included among which is the provision of adequate amounts of good quality light for the various seeing tasks. Both natural and artificial means of illumination should receive attention.

Sources of light should be well shielded to avoid direct glare; the visual environment also should be such as to avoid reflected glare and high brightness differences. To help achieve this, classrooms should be decorated in light colors (white is the preferred ceiling color) with a flat or matte finish, and contrasts, such as those in checkerboard patterned floors or those between dark woodwork, dark-colored desks, or black chalkboards and light-colored walls, should be avoided. Authorities are stressing the fact that brightness balance is the key to efficient seeing and visual comfort. It is pointed out that differences in brightness of the elements immediately associated with a visual task, for example, black letters on a white page, should be kept high while the differences in brightness between the visual task object and the surrounding areas should be low. Artifical lighting systems with small light sources, sparsely placed, and with relatively dark ceiling areas between the lights are rated as the least desirable means of lighting.

Sound control is also an important aspect of school plant design. The reduction or elimination of noise is one of the concerns while the provision of conditions for satisfactory hearing is another. The National Council on Schoolhouse Construction lists a number of corrective measures required to help resolve accoustical problems and states that sonic design should have as its objective the securing of desired hearing and speaking conditions at the lowest cost possible with due regard for such items as " . . .overall building design, desired surface

finishes, upkeep, maintenance, resistance to damage and wear, and aesthetic requirements."[1]

Instructional spaces in school buildings should be designed to provide the proper environment for the kinds of activities carried on in such spaces. In elementary school buildings, kindergarten children make good use of classrooms with a minimum of 1,200 square feet of floor space. An abundance of storage space is needed in the kindergarten. A vast array of furniture, equipment, and supplies is needed in the kindergarten to make possible a great variety of learning experiences for the five-year-old child. Counter tops and other work spaces are needed; sinks with running water should be present. Toilet rooms should be in connection with the kindergarten or very near by.

If the program of elementary education emphasizes a variety of learning activities, as recommended by curriculum consultants, generous floor space allocations should be made available in elementary classrooms. Many outstanding teachers of elementary school children find that they can utilize upwards to 1,000 square feet to advantage. Generous space allocation should be the rule in classrooms used for children needing Special Education. Some school districts prefer to install moveable partitions between or among classrooms so that larger areas may be made available as desired.

Seating should be light in color and moveable. Chalkboards (preferably not too dark in color so that strong contrasts in the visual

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[1] National Council on Schoolhouse Construction, op.cit., p. 108

environment may be avoided) need not be more than 16 to 18 feet long, but an abundance of tackboard space on remaining usable wall areas is highly desirable. The elementary classrooms should have storage space for instructional and pupil-project materials and work space with a sink and running water. It should be possible to set up a part of the room for a reading and library center and another part as a science center. The room should be equipped for the utilization of audio-visual curriculum materials.

In addition to the classrooms, an elementary school plant should contain spaces for the special services that are a part of the modern elementary program. Prominent among these is what has come to be called the curriculum resources center. This material and services center is a functional development and expansion of what in the past was the library. Properly designed, equipped, and staffed, it becomes a center of the instructional program. Among the spaces and facilities in this center might be found a general reading and browsing area, a developmental (remedial) reading instruction unit, work room for the librarian, storage spaces, a conference room, a previewing room, an audio-visual instruction space including possibly language laboratory equipment, and a faculty work room. Perhaps too, there would be a few individual study carrels equipped for a variety of independent study activities.

Other special areas in the large elementary school would be a sizable multi-purpose room -- equipped for physical education and for school and community cultural activities, an administrative office suite including among other areas a space for parent-teacher conferences,

a room for nurse's services and adjacent cot rooms for children who become ill while at school, and space for counselors and a school psychologist. In schools where the children do not go home for lunch, an adequately designed and equipped lunchroom and kitchen unit with auxiliary spaces is necessary. Space for site and building service facilities should also be provided.

In high schools, because there is a great variety and specialization in the educational program, a greater variety in the kinds of instructional space is required. The instructional space in a high school building may be divided into two categories: general classrooms and special classrooms or instructional areas. General classrooms are those that may be used for a number of different subject matter fields, for example, English, mathematics and social studies. Special classrooms or instructional areas, however, are those that, by their design and construction, are readily utilized for only one type of activity. Examples of this latter category are rooms for industrial arts, home economics, and physical education.

Classroom procedures are becoming more varied in the high schools than has typically been the case in the past. Students are becoming more actively involved in learning processes. In modern high schools they are not confined to the pupil-seating area to the extent that was true in the school of yesterday. They are using methods of inquiry more often; they are discovering truth through the personal application of problem solving techniques. Consequently, since they are active

participants in the teaching-learning situation, more floor space is needed in today's secondary school classroom. Thus, the traditional 22 foot by 28 foot classroom of the 1920's will not adequately meet the needs of high school students instructed by modern teachers. Some high school classes make good use of every bit as much space as is suggested for elementary classrooms.

Although the educational program in a high school should be designed to meet the particular needs of the pupils in that school, certain areas of study have been found to meet the needs of large numbers of high-school-age youth. For some of these study areas special rooms are needed. Usually special rooms for art, business education, home economics, industrial arts and vocational education, music, physical education and science should be supplied. With the development of language laboratories many schools provide special classrooms for instruction in foreign languages. For classroom activities in these areas, space requirements vary from 30 to 35 square feet per pupil in art and business education rooms to as much as 75 square feet, or more, in industrial arts and vocational education shops. Space is also needed for special equipment related to particular fields of study and ample room must be provided for storage. Discussion of the details of design and equipment for these special rooms is beyond the scope of this report.

It should be noted, however, that for at least a dozen years there has been some tendency in foreward-looking school systems to experiment with instructional spaces that can be changed in size to meet variations in teaching procedures and class organization. The use of movable

partitions that can be operated with ease by instructional personnel to provide flexible space conditions for large-group or small-group instruction is no longer uncommon.

In addition to the above-mentioned instructional spaces, auxiliary areas are needed for administrative, counseling and guidance, and health services. Offices are needed for administrative and supervisory personnel and at times for instructional staff. The school library, or curriculum materials center as it is now often being called, should be of sufficient size to accommodate from 10 to 15 per cent of the students enrolled in small and medium sized schools. This area should include the various facilities previously mentioned with respect to the same center in the elementary school. Teachers resent the library being called the learning center of the school because they consider the classroom as being such. Nevertheless, the library should be so designed, equipped and staffed that it becomes a center for learning. It should function in a synergetic (working together) relationship with the classroom and should be a "hub" of activity. Food service facilities, teachers workrooms and rest areas, buildings and grounds maintenance and operations areas, a receiving dock and room, bookstore rooms and other storage areas are examples of other areas that should be provided in the modern secondary school. Auditoriums, particularly if they serve the community as well as the school, can be useful educational facilities. These structures have often been criticized because of a low percentage of utilization. They are now being used more frequently than formerly with the introduction of flexible scheduling and large-group instruction.

Junior high schools need facilities that are more alike than different from those for either elementary schools or senior high schools. General classrooms need to be large and well-equipped. Special instructional facilities need to be available so that pupils may have the opportunity to explore a variety of academic and non-academic fields. The middle years of a pupil's attendance in the public schools are as important as the primary and senior high years and as much attention needs to be given to providing a proper environment for learning for these children as for the others. All too often the junior high school or the middle school is housed in inadequate facilities while available tax dollars are used elsewhere -- especially in the high school where accrediting association standards have been a significant influence toward improvements.

## THE WILLCOX SCHOOL FACILITIES ARE DESCRIBED

Bureau personnel made on-site inspections of the Willcox public school facilities to observe conditions as they existed, to get some general impressions of how well the buildings and grounds met the present educational needs and to help determine what additional facilities, if any, should be recommended. A brief description of the school plants follows. For the reader who is well acquainted with the Willcox schools, some details of the description may seem unnecessary. For the uninformed reader and for the historical record, however, such inclusions seem advisable.

## The Elementary School Has Many Commendable Features But Some Major Aspects Of The Plant Are Substandard

The Willcox Elementary School plant consists of eleven structures, of varying vintage, on a flat site of about eight acres in size. The site is centrally located in a residential neighborhood a bit north and west of the center of the down-town business section. The structures include three parallel rows of modern classroom buildings, an administration building, a practically new facility for food services and library, an old (1921) high school building converted to elementary purposes, an old gymnasium, three old frame barracks buildings and a fairly new small structure for mechanical equipment.

Included in the modern classroom buildings are two kindergartens, (Rooms numbered 1 and 2) and 18 classrooms for elementary grades (Rooms 3 - 20). Three classrooms (numbered 23, 24 and 25) and toilet rooms are located in the largest of the three frame barracks buildings. The middle-sized barracks building accommodates an audio-visual room and considerable storage space while the smallest frame structure is used for a music room. Six main-floor classrooms (Rooms 26 - 31) are in use for Grade 4 in the former high school building. This structure also has in service a teachers' work area and lounge. Most other portions of this building are out of service and do not merit the investment that would be needed to rehabilitate them as safe and otherwise acceptable school facilities. From the above it may be seen that in addition to the two kindergartens there are 27 regular elementary classrooms in use on the site.

The 18 of these that are in the modern permanent buildings should serve the district well for many years to come, if they are properly maintained. They are quite adequate in size (about 850 square feet of floor space each) for the number of pupils per classroom (25) that the district tries to hold to as a matter of policy. These rooms are well-arranged and are generally attractive in appearance. There appeared to be little or no control, however, of natural lighting. Sunlight, sky glare, and glare from buildings in the vicinity appear to create problems at times.

The barracks building general classrooms (Rooms 23, 24 and 25) have little to be said in their favor. They poorly represent the community. They were supposed to be "temporary" when they were built for military purposes during World War II and they were obsolete when they were installed on the site. They are of substandard sizes. They let in the dust when the wind blows. Heating is not what would be desired; ceiling-mounted forced air gas units are used. For hot weather there is no provision for cooling. In two of the three rooms lighting is decidedly inadequate, with only two, two-tube fluorescent fixtures installed per room. These rooms just do not provide satisfactory learning environments.

The classrooms in the 1921 building have the following approximate floor areas:

| | |
|---|---|
| one at | 1050 square feet |
| one at | 950 square feet |
| three | 775 square feet |
| one at | 600 square feet |

These rooms have some advantages over those in the barracks; for example, they do not get as hot during the fall and spring months. The ceilings

were noted to be the major problem due to the deterioration of the plaster as a result of repeated roof leaks. (Oral suggestions were made to the administration and school board relative to safety precautions in this matter.) The wood floors in these rooms have held up well over the years but they present a noise distraction, with the exception of the floor in Room 31 where the problem was lessened greatly by the use of asphalt tile floor covering.

Artificial lighting is supplied by banks of fluorescent fixtures. It is completely inadequate in quantity for many classroom seeing tasks unless supplemented by window light. The windows, however, have Venetian blinds that are often closed because of glare. Chalkboards are black and therefore create undesirable contrast in the visual environment. Heating of the classrooms, via steam heat, is said to vary in effectiveness according to the distance of rooms from the boiler.

The school district is to be commended on the generally good supply and fine quality of the equipment in most of the classrooms. Unfortunately, certain classrooms have nearly new portable desks that appear to be sturdy but allegedly were poorly made, with bolts, hinges, wood parts and welds giving way too easily. It was noted that action was being taken to provide room-darkening curtains so that audio-visual instructional materials that require projection on a screen could be shown right in the classrooms. When this arrangement is made teachers will normally make more frequent use of such materials since there is not the disruption incident to taking a class to a distant room.

The presence of a number of pianos throughout the school was noted. This was another evidence of the effort evidently being made to provide equipment. These pianos vary widely in age and quality but they had one thing in common: they were all out of tune! Once a piano is permitted to get badly out of tune, time and additional effort is necessary to bring it back up to pitch. School pianos should be tuned twice yearly as an economy measure, besides the esthetic value.

The administration building is located in close proximity to the newer classroom buildings. This facility contains the principal's office, a nurse's area with limited cot space for sick children, teachers' work and rest space and boys' and girls' toilet rooms. There is no office space for a school counselor or a psychologist. The building is too limited in size to properly accommodate the activities that are carried on therein. The office of the principal is too small and it affords no privacy; the same is true of the health area. More space for faculty is also needed. This matter will be discussed further in a subsequent chapter.

As was mentioned previously, a nearly new building houses a food service facility and the school library. The dining area covers about 3,150 square feet of floor space. Therefore, at 10 to 12 square feet per pupil it could accommodate a lunch shift of from 260 to 315 children. A sizable kitchen area is provided. There are also storage spaces, a walk-in refrigerator, a faculty lunch room, a toilet room, and some other minor spaces. The kitchen equipment was observed to be of good quality

but perhpas more is needed, for example, heavy duty ranges, floor mounted mixers and giant bowls.

A start has been made on furnishing and equipping the new, 1,575-square-foot library. This room is much in need of accoustical treatment. Carpeting is suggested as a means to help solve the noise-echo problem and also to give a much-needed feeling of warmth to the room, which now leaves the impression of bareness and lack of color. Some art work on the walls would also help. This facility may be developed into a true instructional resources center and a place where children and teachers delight to be. Incidentally, although it could have been done at less cost during construction, a sink with hot and cold water would add much to the utility of the work area.

Behind the original school building (the 1921 structure) is the gymnasium, a rather unattrative, partially fire-resistant, old building that contains a substandard-sized basketball court and two locker and shower room areas. This old facility has long since paid for itself in service and even today has certain utilitarian values both for the elementary school and the junior high school.

Further specific description of the rest of the elementary school plant will not be given other than to remind the reader that the other two barracks buildings, i.e., the music building and the audio-visual and storage building, are strictly non-fire resistive, frame buildings of a temporary nature. Also, the Bureau wishes to call attention to the presence of an abandoned swimming pool on the school site. This

out-dated facility was scheduled for demolition during the summer of 1967. The Bureau personnel concurred in this action inasmuch as the pool was a safety hazard (an attractive nuisance) to children and it, together with its fences and sloping embankments, occupied about a third of an acre of valuable playground space.

## The Buildings For The Junior High School And The High School Are Arranged On A Campus Plan

The citizens of the Willcox school district are to be congratulated for having provided an 80-acre site for the locale of a modern school plant for junior high school and the high school. Ten acres on the north end of the site has been leased to the City for the development of a community recreation area with a swimming pool, ball diamond and other facilities for use by both the schools and the community at large. The school buildings are arranged on a campus plan; they include the following:

Junior High School Section

North classroom building - (1961 and 1963)

Ten general classrooms -- rooms 201 - 210, inclusive

(each somewhat over 800 square feet in area)

South classroom building - (1959)

Ten general classrooms -- rooms 101 - 110, inclusive

(each somewhat over 800 square feet in area)

Library building - (1963)

An open-shelving general library reading room

(the size of two of the above classrooms)

A music room

(somewhat over 800 square feet in area)

A very small audio-visual equipment and supply room

A very small area for faculty use

Boys' and girls' toilet rooms

A custodial supply and equipment storage space

Administration Building - (1959)

A general office and waiting room

A principal's office

A workroom

A nurse's office (very small)

A cot room for sick children (small)

Boys' and girls' toilet rooms

Shower and Locker Room Building

One shower and locker room area for boys

One shower and locker room area for girls

(each with slightly over 600 square feet of floor space)

High School Section

Auditorium and Administration Building - (1955)

Auditorium with stage

Administration office -- with waiting space, general office, office for principal, vault, and storage space

District administration office for superintendent and a small space for secretaries and reception

Band room -- with two adjoining small areas for stage dressing rooms or use for music purposes

(about 1260 square feet of floor space in bandroom)

A ticket booth

A vestibule and corridor

Public toilets for men and women

Janitorial supplies closet

A large gymnasium (112 feet by 85 feet) with bleachers

Two floor levels of space for lockers, showers, dressing room, storage, office, and activity wing. (1963)

Main classroom building - (1955 - 1963)

Four general classrooms -- rooms 1 - 4, inclusive

(each about 875 square feet in area)

Physics and chemistry office space and storage

Physics and chemistry combination laboratory and classrooms

(approximately 1728 square feet in area)

Biology combination laboratory and classroom plus a storage room (1963)

(about 1400 square feet in the classroom)

A home economics suite of three rooms consisting of a textile area (720 square feet), a home living space (500 square feet), and a food laboratory (about 1000 square feet)

A teachers' work area and lounge

A cot room for ill pupils

Boys' and girls' toilet rooms

A central corridor

The Library building - (1955)

Library reading room and study hall

(about 1400 square feet in area)

Library work and reference room plus office

(nearly 700 square feet including the office)

One general classroom

(nearly 700 square feet in area)

Two classrooms

(about 940 square feet each in area)

The north classrooms additions - (1957 and 1961)

Six general classrooms - rooms 5 - 10, inclusive

(about 850 square feet of area in rooms 5 and 6 and about 925 square feet in rooms 7 through 10)

Boys' and girls' toilet rooms

Janitorial equipment and supply room

The industrial arts - vocational education building

Vocational agriculture shop - (1955)

(about 3,000 square feet in area)

Vocational agriculture classroom - (1955)

(about 675 square feet in area)

Woodworking shop - (1958)

(about 975 square feet in area)

Aerospace classroom - (1963)

(about 1135 square feet plus small store room)

Woodworking storage room - (1960

(about 500 square feet in area)

The barracks frame building - (about 1942, moved in in 1955)

One general classroom -- room 11

(about 930 square feet in area)

One large storage room for janitorial items

(about 1000 square feet in area)

Other Buildings

Food services building - (1959)

Lunch room with table storage room

(approximately 2600 square feet in area)

Kitchen and auxiliary rooms - including storage, refrigeration, dish washing and toilet.

(about 1500 square feet total)

Developmental reading center - an almost new portable classroom

Bus garage and equipment storage shed

(roofed-over area totals about 4200 square feet)

Covered walkways connect a number of these buildings to one another. Open sidewalks of concrete link up all but about two of the others. Lawns, play courts, parking lots, athletic fields and leveled play areas occupy much more of the site. There is also ample undeveloped space for foreseeable future needs.

Classrooms throughout the various buildings are generally of sufficient size to make possible an educational program featuring much pupil involvement.

It was a surprise to the survey team to discover, however, that the high school general classrooms tend to be larger than those available

for Grades 4 through Some high school classrooms are small, though, for the activities that are carried on in them. Noticeable examples of this are the room for typewriting and the vocational agriculture classroom.

The visual environment varies from good to below average. Classrooms in buildings with overhanging eaves seem to have reasonably good control of sky glare; those in buildings without this feature lack good control. The junior high band room is an illustration of a room with poor lighting for the visual tasks involved. The high school band room illustrates an area that needs to be redecorated in a color that will eliminate the feeling of drabness and have a much higher reflection factor. Control of skylights is a problem in a number of rooms. In the home economics foods laboratory and in the livingroom may be seen lighting fixtures suspended downward considerably from a relatively low ceiling. These incandescent lights, enclosed in large round globes, provide very poor quality light and create glare patches that are particularly noticeable when one is standing or when he looks across the room.

The sonic environment in most areas is good. Acoustical tile has been used to advantage to reduce reverberations within the classrooms. Most noisy zones have been separated from quiet zones, but not all. For example, the band room for the upper grades adjoins the library for those grades. The most noticeable sound control problem is that associated with ceiling mounted gas heating units with fans for air circulation. The agriculture classrooms and the new business education rooms are prime examples of the problem.

Temperature control is another matter of concern. It appears that overheating is more of a problem than is underheating, although the high school band room sometimes is hard to heat. Overheating was observed in the early evening of a chilly spring day in a number of the classrooms in the 1955 (original) classroom building. Temperature readings in several rooms ranged from the mid-eighties to the mid-nineties.

Movable furniture is being used extensively in the schools. There is a reasonably good supply of instructional equipment. Effective teachers, however, can always put additional aids to instruction to good use. It is suggested, for example, that further permanent installation of projector screens, like the one in Room 101, will increase the use of projected materials. The use of the reading center illustrates what good equipment and competent staff can do.

The high school library impressed the survey team as being more in the nature of a study hall than a library. The 60 student desks lined up in rows reinforced the feeling. This matter is discussed further later on in this report. It was pleasing to learn that there are plans to make the library truly an instructional materials center for the high school.

One final comment relative to the description of the plant may not be inappropriate. It was noticed that the new business education rooms had been "sandwiched" in between existing classroom buildings. It is to be hoped that this type of crowding of facilities will not be permitted to take place in the future regardless of some legal technicality

that may at the time seem important. The school district has an attractive plant for grades 5 through 12. Part of the reason for this attractiveness is the feeling of spaciousness the facility gives. Placing structures in too close proximity one to another will destroy this asset.

## THERE ARE SCHOOL PLANT FACILITIES PROBLEMS AND NEEDS

As is very likely true of school sites, buildings, and equipment for the typical school system, there are school plant facilities problems and needs in the Willcox Public Schools. Many of these matters are discussed in this section of the report.

### Maintenance And Improvement Should Continue

A number of conditions were observed in and about the buildings that needed attention from the standpoint of maintenance and repair. Inasmuch as much of this work will very likely have been done during the summer months, most conditions related to maintenance and repairs have not been discussed herein. Regular inspection of facilities is necessary and a continuous maintenance program saves a school district money in the long run since it is less costly to make repairs when the need is small than to wait until further deterioration takes place.

Perhaps the most exasperating maintenance problem related to the Willcox schools is the roof problem. It was a source of dismay to the survey team to note the water damage in old and new buildings because of roof leaks. The team members are aware of the fact that many attempts have been made to correct roof conditions. It is suggested that the

effort be continued and that the services of highly skilled, though perhaps seemingly expensive, roofing personnel be solicited.

Another problem associated with rain water is that of drainage of ramps that extend below grade. It would appear that on some occasions during heavy rains the drains are not able to carry off the water fast enough. Bureau personnel were not able to assess the seriousness of this problem. If it is a frequently occurring matter of serious concern during rainy seasons, perhaps attractively designed permanent roof covering for the down ramps should be provided.

Temperature control appears to be a problem in some buildings. Barracks classrooms, for example, tend to build up heat during hot weather, but the expense of installing air cooling is not justifiable. Other classrooms, as previously noted, get too hot during the heating season. Some rooms at times are difficult to heat; the high school band room illustrates this point as has been mentioned previously. In the old building that houses fourth graders, temperature during the heating season seems to vary according to the distance classrooms are from the boiler room. Then, again, other classrooms are adequately heated at the expense of loss of satisfactory sonic conditions.

Previously, it was mentioned that in some classrooms lighting conditions are not ideal. Certain of the light fixtures in the high school home economics department need to be replaced. It was mentioned that artificial lighting in the building housing fourth graders is inadequate. Supplementing the present fixtures with others that could be used elsewhere when the old building is abandoned would be helpful.

Classrooms that have a sky-glare problem could be improved through the use of exterior mounted light baffles. Where there is excessive light reflection from nearby residences, tree plantings would help alleviate the difficulty. Where skylights stick open or closed, prompt maintenance work is recommended. Continuance of the program of installing room-darkening curtains in classrooms as rapidly as the budget will permit will facilitate teaching and learning. Repainting the high school band room in a lighter color would be advantageous.

School parking lots were observed to be getting into a state of disrepair. If repair work has not been undertaken at the time of the delivery of this report, it is suggested that consideration be given to the installation of a more permanent surfacing to these parking lots. The replacement of a temporary coating with permanent materials very likely could be classified as a capital outlay expenditure not subject to the 6 per cent budget limitation. This would, of course, be true of a project to hard top some additional play areas at both school sites and this project is also seen as a desirable undertaking.

## Building Facility Needs Will Vary But Some Additions Are Recommended

In Chapter II it was pointed out that there is a definite possibility of varying patterns of change in peak membership in the next decade for the elementary and secondary grades. A study was made of what the changes would mean in terms of building requirements. Also, attention was given to the extent to which additional facilities were

needed to make possible a better program of education. Building facility needs will vary but some additions to the present plant are recommended. The findings, suggestions, and recommendations concerning these matters are reported below.

## Building Needs For Kindergarten Through Grade 4

To estimate the classrooms needs for kindergarten and grades 1-4 for the period 1967-1968 through 197601977, Table 3.1 was prepared. This table is based on peak membership estimates reported in Chapter II and consequently is also based on the assumptions pertaining to the projections of pupil populations.

According to the table two classrooms should be adequate to accommodate kindergarten children during most of the ten-year period. There is the possibility that a third room may be needed for half-time usage during the next three years. This would be true if practically all eligible children attend the kindergarten.

Using the average class sizes indicated in Table 3.1, with this average class size being that at the time of peak membership, 26 or 27 rooms would appear to be adequate for the 1967-1968 school year. This would mean that two or all three of the substandard barracks classrooms could remain idle during the year ahead. Possibly all three of them, however, could be needed in 1968-1969. This can be determined in the spring of 1968. Thereafter the need for the barracks classrooms seems to be eliminated shortly and in fact, if the projections are correct, the old high school building will only be needed for five or six more years since by 1973-1974 the 20 modern classrooms may conceivably accommodate the total membership.

TABLE 3.1

Numbers of Classrooms Needed In The Willcox Elementary School
1967 - 1968 Through 1976 - 1977, On The Basis Of Peak
Membership Estimates

| | Grade | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | K | 1 | | 2 | | 3 | | 4 | | |
| School Year | Rooms Needed | Rooms Needed | Average Class Size | Rooms Needed | Average Class Size | Rooms Needed | Average Class Size | Rooms Needed | Average Class Size | TOTAL ROOMS NEEDED |
| 1967-1968 | 2-3* | 7 | 27 | 6 | 27 | 6 | 24 | 5 | 24 | 26-27 |
| 1968-1969 | 2-3* | 7 | 24 | 7 | 24 | 6 | 24 | 6 | 24 | 28-29 |
| 1969-1970 | 2-3* | 6 | 26 | 6 | 25 | 6 | 26 | 6 | 24 | 26-27 |
| 1970-1971 | 2 | 6 | 25 | 6 | 23 | 5 | 27 | 6 | 26 | 25 |
| 1971-1972 | 2 | 5 | 24 | 6 | 23 | 5 | 25 | 5 | 26 | 23 |
| 1972-1973 | 2 | 5 | 24 | 4 | 27 | 5 | 25 | 5 | 25 | 21 |
| 1973-1974 | 2 | 5 | 24 | 4 | 27 | 4 | 24 | 5 | 25 | 20 |
| 1974-1975 | 2 | 5 | 25 | 4 | 27 | 4 | 24 | 4 | 24 | 19 |
| 1975-1976 | 2 | 5 | 26 | 5 | 23 | 4 | 24 | 4 | 24 | 20 |
| 1976-1977 | 2 | 5 | 27 | 5 | 23 | 4 | 25 | 4 | 24 | 20 |

* Two rooms full time and one room half time.

On the basis of the above calculations and in view of the fact that the elementary school site is below recommended size it is recommended that no further general classroom construction be scheduled for the elementary site. It is further recommended that the barracks classroom buildings be removed from the site by the summer of 1970 or, if possible, by 1969. The old high school building should be scheduled for further service until the summer of 1973 at which time it should be razed. Assuming the availability of empty classrooms in the old high school by the fall of 1970 or 1971, it should be possible also to remove the frame audio-visual and storage building and the music barracks building by the summer of 1970 or that of 1971.

It is proposed that after all the old buildings, except the old gymnasium, have been removed in the early 1970's a new multipurpose building be erected on the elementary school site. This building would have a large activity room for physical education, for children's games and other recreation, and for cultural activities including assemblies. The building would have a stage (suitable for elementary school purposes), shower and locker rooms, toilet rooms, storage space, and possibly a music room. Following the completion of this modern structure the present out-dated gymnasium building would also be torn down.

The elementary school administration building needs to be enlarged or the teachers' work and rest area should be placed elsewhere. At present the principal's office, the health and school nurse area and the teachers' work and lounge areas are too crowded together in too limited space. The principal's office should be enlarged to occupy at least

part of the space now used by the school nurse. The nurse could be moved into space now used by teachers provided a new teachers' area is built. Preliminary thinking about this matter results in two suggested possibilities: (1) that an addition be placed at the southwestern end of the administration building, that is, at the end nearest the library and food services building, or (2) that a teachers' work room and lounge be added to the library. Acting upon this second possibility would further accelerate the development of the library into a true curriculum resource center.

Also, with respect to the elementary site, the district should plan in the more remote future to acquire the residences remaining on the north-easterly corner of the block in which the site is located. There need not be any hurry to accomplish this goal; the houses will depreciate in value with the passage of time.

One final matter needs discussion relative to the elementary school site and buildings. The thoughtful reader of this report may ask what about these important recommendations if the elementary school membership does not follow the pattern that has been projected. For example, what if mining developments and industry cause the community to grow substantially? The Bureau's answer to this is that in that event another elementary site should be acquired and a new school plant should be started thereon. The Bureau does not recommend a policy of continuing to build more classrooms on the present elementary school site.

Building Needs For Grades 5-8

To assist in analyzing the school plant needs for grades 5-8, Table 3.2 was made. This table indicates the usage of the general classrooms in October of 1966. The table identifies the various rooms, names the principal subjects taught in each room, gives the number of periods each room is used weekly out of a total possible of 35 periods, presents the rated and actual pupil-period weekly usages, and shows what the percentages of actual usage are in comparison to normal usage. These percentages were computed two ways: on the basis of 25 pupils per period being considered the maximum number of pupils desired in a classroom and on the basis of the number of pupils a room would accommodate per period if 30 square feet of floor space were allotted per pupil.

The table indicates very heavy usage of these classrooms. In fact, 10 and at times 11 of the rooms were used every period of the week for instructional purposes, thus leaving them unavailable during the school day for a period when teachers could meet with individuals or small groups of pupils or make preparations for further instruction. (Where teacher offices are not provided it is a common procedure across the Nation to leave classrooms free one period per day for teacher preparation and other activities related to improving the educational program.)

If these rooms were to be used for class instruction six periods per day, with 25 pupils being the average class size as Willcox school

TABLE 3.2

Usage of General Classrooms In The Willcox Junior High School Buildings, October 1966

| Room No. | Principal Subjects | No. of Periods Used Weekly | Rated Weekly Pupil-Period Normal Usage** @ 25 pupils | @ 30 sq.ft. per pupil | Actual Weekly Pupil-Period Use | Percentage of Normal Use @ 25 pupils | @ 30 sq.ft. per pupil |
|---|---|---|---|---|---|---|---|
| 101 | Sci. & P.E. | (35#) | (750) | (840) | (1095#) | (146) | (130) |
| 102 | Math. & Sci. | 30 | 750 | 840 | 760 | 101 | 90 |
| 103 | Art & Eng. | 30 | 750 | 840 | 780 | 104 | 93 |
| 104 | Soc. Stu. | 30 | 750 | 840 | 745 | 99 | 89 |
| 105 | Eng & Rdg. | 30 | 750 | 840 | 750 | 100 | 89 |
| 106 | Science | 30 | 750 | 840 | 790 | 105 | 94 |
| 107 | Math. | 30 | 750 | 840 | 800 | 107 | 95 |
| 108 | Eng. & Span. | 30 | 750 | 840 | 770 | 103 | 92 |
| 109 | Sci. & Soc.Stu. | 30 | 740 | 840 | 795 | 106 | 95 |
| 110 | Eng & Rdg. | 30 | 750 | 840 | 795 | 106 | 95 |
| 201 | Sci. & Spell. | 35 | 750 | 840 | 995 | 133 | 118 |
| 202 | Hist. & Spell. | 35 | 750 | 840 | 1005 | 134 | 120 |
| 203 | Math. & Spell. | 35 | 750 | 840 | 985 | 131 | 117 |
| 204 | Lang. & Spell. | 35 | 750 | 840 | 1005 | 134 | 120 |
| 205 | Rdg. & Spell. | 35 | 750 | 840 | 1015 | 135 | 121 |
| 206 | Math & Spell. | 35 | 750 | 840 | 1025 | 137 | 122 |
| 207 | Sci. & Spell. | 35 | 750 | 840 | 1025 | 137 | 122 |
| 208 | Lang. & Spell. | 35 | 750 | 840 | 995 | 133 | 118 |
| 209 | Hist. & Spell. | 35 | 750 | 840 | 1015 | 135 | 121 |
| 210 | Rdg. & Spell. | 35 | 750 | 840 | 1015 | 135 | 121 |
| | TOTALS | | 15,000 | 16,800 | 18,160 | 121 | 108 |

* Thirty-five periods indicates that a room was being used for instruction purposes every period of the week.

**Normal usage was computed on the basis of 25 pupils maximum per classroom period for six out of seven periods per day and also on the basis of an allowance of 30 sq. ft. per pupil with a room again being used six out of seven periods per day. This latter basis would allow for 28 pupils per classroom per period.

# Used this heavily only during times when the weather will not permit outdoor P.E.

##Used five periods less per week for instruction when P.E. may be conducted out of doors.

policy sets as the goal, the normal usage would be 750 pupil-periods[1] per week. By way of comparison, the usage would be 840 pupil-periods per week if class sizes were established that could provide about 30 square feet of floor space per pupil -- a commonly accepted standard. (These rooms are of such size that 28 pupils per class could be accommodated on the 30 square feet per pupil basis.)

By a study of the table one may see that in October of 1966 the actual weekly pupil-period usage of the rooms varied from 745 in Room 104 to as high as 1,095 pupil-periods some weeks in Room 101. Seven other rooms were used in excess of 1,000 pupil-periods per week.

Further recognition of the heavy usage of the classrooms may be had from an examination of the final two columns on the right in Table 3.2. These columns show what percentage the actual usage of the rooms was of what would be considered normal or standard use. The next to the last column shows that only Room 104 was below full expected utilization and only by 1 per cent at that! By comparing the total actual usage of the classrooms with the total that was rated as normal on the basis of school board policy, it was found that the rooms were used 121 per cent of what they were rated. When school district policy was not used as a standard for comparison and in its place a standard of 30 square feet of floor space per pupil was used, the total utilization figured out to be 108 per cent of normal.

When the survey team related the above information to the projected

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[1] A pupil-period means one pupil for one class period.

estimates of memberships in grades 5-8 for the next ten years (see Table 2.12), it became obvious that additional school plant facilities were needed for children in these grades. The question then arose as to what facilities were most needed. This led to a study of the course offerings for the above grades. An analysis was made of the classroom or other instructional area needs subject by subject and grade by grade. Included in the analysis was attention to the frequency that the various classes would meet each week.

As a result of a careful study of these matters it was concluded that the following instructional spaces are needed:

21 general (all-purpose) classrooms
1 band room
1 vocal music room
1 combination art and arts and crafts room
2 physical education instructional rooms.

This, of course, does not mean that all of these are needed in addition to what is now on hand. There already are 20 general classrooms and there is a band room. Further study of the curriculum and of the current space situation results in the following important recommendations:

1. That a multipurpose building or cluster of buildings be erected as soon as possible.

It is recommended that this latter building, or cluster of buildings include the facilities listed below:

a) a multi-use space at least 80 feet by 60 feet in floor dimensions and having a ceiling clearance of 18 to 20 feet. (This space would make availalbe two 40 foot by 60 foot physical education instruction areas, a place

for assembly programs, and space for other school and community activities)

b) a medium-sized stage in conjunction with the above mentioned multi-use space

c) a shower, locker and dressing rooms for girls and boys

d) a band room with small auxiliary rooms (this facility to be conveniently located for access to the stage)

e) a room for vocal music and music appreciation

f) a combination art room and arts and crafts center (conveniently located for access to the stage)

g) toilet rooms

h) adequate storage space

i) a custodian's room

2. That the present band room be converted to other use as discussed immediately below.

There is need for an additional classroom. The present junior high school band room is as large as the other classrooms and could be converted to regular class use without too much expense. This, then, is one possibility. A second is to remodel the space into a really suitable faculty workroom and rest area plus a new area for audio-visual materials and equipment in connection with the library. This latter possibility would release the present faculty rooms and the audio-visual equipment room. These spaces then could be turned over to the school nurse for office and cot room spaces. Such an arrangement, in

turn, would release needed space in the administration building. This second combination of changes is preferred by the survey team and leads to the third recommendation.

3. That an additional classroom be purchased or that two more classrooms be constructed.

Purchase infers a portable classroom and this is what is meant. The purchase of a high-quality portable would give the district some flexibility in the use of the unit in the future; that is, from time to time it could be placed where it was most needed, be it at the elementary school, the junior high, or the high school. The alternative suggested is that two more classrooms be constructed. Two are proposed because the addition of only one room onto the present pairs of back-to-back classrooms would not be particularly attractive. Also, if two classrooms are constructed, one of them may be used to house the reading center and the portable classroom now housing the reading center may then be used for other purposes. For example, it could be used for girls' home arts classes and for academic classes from the high school.

## Building Needs For The High School

General and special classroom needs for the high school also were carefully studied. Part of the analysis included the preparation of Tables 3.3 and 3.4. The first of these, Table 3.3, was prepared just as was Table 3.2 with the exception that 30 periods per week was the basis for figuring a classroom in use every period of the week for class

TABLE 3.3

Usage Of General Purpose Classrooms In The Willcox High School Buildings October, 1966

| Room No. | Principal Subjects | No. of Periods Used Weekly* | Rated Weekly Pupil-Period Normal Usage# @ 25 pupils | Rated Weekly Pupil-Period Normal Usage# @ 30 sq.ft. per pupil+ | Actual Weekly Pupil-Period Use | Percentage of Normal Use @25 pupils | Percentage of Normal Use @ 30 sq.ft. per pupil |
|---|---|---|---|---|---|---|---|
| 1 | Mathematics | 25 | 625 | 725 | 530 | 85 | 73 |
| 2 | English | 25 | 625 | 725 | 645 | 103 | 89 |
| 3 | English & History | 20 | 625 | 725 | 490 | 78 | 68 |
| 4 | Math., Soc., & Gen. Sci. | 30 | 625 | 750 | 665 | 106 | 89 |
| 5 | Civics & Journalism | 25 | 62" | 750 | 540 | 86 | 72 |
| 6 | Spanish | 25 | 625 | 750 | 455 | 73 | 61 |
| 7 | Sociology & History | 30 | 625 | 725 | 755 | 121 | 106 |
| 8 | English | 25 | 625 | 725 | 520 | 83 | 72 |
| 9 | Mathematics | 25 | 625 | 725 | 515 | 82 | 71 |
| 10 | English | 25 | 625 | 725 | 495 | 79 | 68 |
| 11 | Business & Gen. Sci | 20 | 625 | 750 | 450 | 72 | 60 |
| | TOTALS | | 6,875 | 7,325 | 6,060 | 88 | 83 |

* Thirty periods indicates a room being used every period of the week.
\# Computed on the basis of five periods per day considered to be normal usage.
\+ Thirty pupils per classroom accepted as a maximum regardless of the fact that a room may possibly have space to accommodate more pupils.

TABLE 3.4

Usage of Special Classrooms And Instructional Areas
In Willcox High School, October, 1966

| Room | Principal Subjects | Number of Periods Used Weekly | Rated Weekly Pupil-Period Normal Usage | Actual Weekly Pupil-Period Use | Percentage of Normal Use |
|---|---|---|---|---|---|
| Bus. A# | Business, Short-hand, Bookkeeping | 20 | 750 | 405 | 54 |
| Sci. A | Chemistry & Physics | 20 | 600 | 360 | 60 |
| Sci. B | Biology | 25 | 600 | 610 | 102 |
| Typing | Typing | 30 | 575 | 620 | 108 |
| Agric. | Agriculture & Farm Mechanics | 20 | 500 | 340 | 68* |
| Aero. | Aerospace, Driver Education, & Drafting | 25 | 600 | 520 | 87 |
| Band | Junior & Senior Band | 10 | 1,750 | 515 | 29* |
| Gym. | Physical Education (boys & girls) | 25** | 2,100 | 1,430 | 68* |
| Shop | Wood, Shop I, II | 15 | 475 | 170 | 36* |
| Home Ec. | Foods Laboratory | 10 | 500 | 140 | 28 |
| Home Ec. | Textile Laboratory | 25 | 600 | 435 | 72 |
| Home Ec. | "Home Ec. IV" | 25 | 600 | 435 | 72 |

# Data relative to classroom "Business-A" pertain to that portion of the school year when that classroom was available.

* This percentage reflects only the usage for regularly scheduled classes. Individual or small-group instruction, although unscheduled, extends somewhat the percentage of usage of these rooms.

**Twenty-five periods when classes are not conducted outdoors.

instruction. This figure was used because the high school is on a six-period day.

Twenty-five periods of use per week would be considered normal us age of these classrooms. As Table 3.3 shows, seven of the eleven rooms were used to this extent while two rooms were used all 30 periods and two were used 20 periods. Since this extent of use indicates full normal usage on the average and inasmuch as the membership projections indicate a possibility for continuing growth of the high school during the next ten years, it was concluded that more general classrooms will be needed. A study of this table and Table 3.4 in comparison with Table 3.2, however, shows that needs for grades 5-8 are more pressing than are those in the high school.

The study of the utilization of the special classrooms and instructional areas is summarized in Table 3.4. Only the classroom for typing was used every period of the week but the biology laboratory had a high percentage of use because of the class sizes. Generally speaking the special facilities will be able to accommodate more students in the years ahead. If more space is provided for typing, larger classes may be scheduled. The woodworking shop is too small to accommodate the equipment belonging in it.

The following recommendations are made relative to high school facilities:

1. <u>That the barracks building be retired from service as a class-room facility as soon as permanent classrooms can be erected to replace it and take care of additional needs</u>.

   (Once a multi-purpose building is provided for grades 5-8,

the present junior high school shower and locker room may be converted to a supply and equipment storage building and a headquarters for custodians. At that time the barracks may be torn down or moved back in the vicinity of the bus barn.)

2. That a business education building be erected as soon as possible and that this structure include the following:

   a) a typing room, having an area of approximately 1200 square feet

   b) two classrooms of about the same size as the two new business education classrooms, that is, Business A and Business B.

   c) two small offices of about 80 to 90 square feet each

   (This facility will put all the business education in one suite of rooms and will make possible an exceptionally good departmental arrangement. It will make it possible to enroll more pupils in typing classes and will release three classrooms for other use as mentioned in #3 and #8 below.)

3. That the classrooms presently named Business A and Business B be used for general academic purposes.

   (There is need for two more general classrooms in the immediate future. This arrangement will supply that need.)

4. That two more general classrooms be planned for the early 1970's.

5. That the library be redesigned and furnished to convert it into a true library and curriculum resource center.

   (As has been said before, the library now is as much study hall as library. Library furnishings, including carpeting, are recommended. The area should be developed into one of the more

attractive spots on the campus so that it would practically invite students to come in and seek knowledge.)

6. That classroom Number 4 be further equipped for full-time use as a general science room.

   (The need for this room for full utilization for science instruction is foreseen.)

7. That the woodworking shop be enlarged to the extent that it would accommodate classes as large as 24 pupils and all the equipment that should be housed within its own space.

   (The survey team, incidentally, sees no valid reason why this area should not be used by junior high school as well as high school students.)

8. That the present typing area be converted to a faculty work and rest area.

   (The present faculty work and rest space is entirely too small for the staff. Furthermore, to have this facility adjacent to the library and in fact connected to it would be very beneficial.)

9. That the present faculty work and rest area be assigned to counseling and guidance.

   (It is not necessary for a counseling and guidance unit to be adjacent to the administration offices. In fact, many authorities recommend that this not be the case. To put counseling and guidance in the place recommended would be putting it more nearly in the midst of where the students are.)

10. That the office formerly occupied by the superintendent and just recently assigned to counseling and guidance be turned over to the high school principal as a bookstore and school supplies storage room and, if there is enough space, a conference room.)

The implementation of the above ten recommendations will do much to facilitate the high school educational program. Willcox school district's fine high school plant merits these additions and improvements.

## Other Building Needs

The district bus barn is not wide enough to accommodate the long school buses currently in service. This means that mechanics and other transportation maintenace personnel must work on the buses out in the open or with portions of the buses extended out of doors. In cold or wet weather this can be a miserable situation for the above-mentioned persons. Since the bus barn is made out of pipe and corrugated sheet iron, it would cost very little to widen the repair service portion of the building with more of the same kind of building material. This course of action is recommended. It is also suggested that some windows be installed. These, however, probably should be barred. Non-movable sash should be adequate. Finally, means should be provided to remove exhaust gases.

In conclusion, the survey team was informed that the foods services dining area is over crowded some noons. No study was made of this situation so no recommendation is made. On the basis of an allocation of 10 to 12 square feet of floor space per pupil, the dining room should accommodate from 220 to 265 pupils in one shift. If a careful scheduling of lunch shifts has been worked out by the two principals concerned and if in spite of this there continues to be undue crowding, it may be necessary to enlarge the dining area.

CHAPTER IV

# THE FINANCIAL PICTURE

In the preceding chapter a program of school plant enlargement and improvement was proposed. If this program is put into effect many educational benefits to the children and youth of the school district may be expected. The next matter to consider is the financing of the proposed program. This is the subject for consideration in the present chapter.

## THE COSTS ARE ESTIMATED

It is not possible to specify exactly how much the proposed building program will cost. This depends upon many factors, one of the more important of which is the time when bids are called for. With the continuing inflationary trends in the Nation, however, it may be expected that each year of delay will result in increased costs. How eager building contractors may be for work at a given time also sometimes makes quite a difference. Occasionally calling for bids on small projects that local contractors can handle saves money while at other times grouping projects together seems to bring in lower bids.

Estimates should be more accurate after plans and specifications have been worked out in preliminary form than are estimates previously prepared on the basis of mere dollars-per-square-foot calculations. The reader should keep these facts in mind as he examines the estimates given below.

At the square footages given and, except as noted, at the per-square-

foot costs listed at the tops of the columns involved, the following costs are projected:

| Project | Cost Per Square Foot $16.00 | $17.50 |
|---|---|---|
| 1. Elmentary multipurpose building (4,700 sq.ft.) | $ 75,200 | $ 82,250 |
| 2. Elementary teachers' work and rest area (500 sq.ft ) | 8,000 | 8,750 |
| 3. Multipurpose building for grades 5-8 (14,300 sq.ft ) | 228,800 | 250,250 |
| 4. Two general classrooms for grades 5-8 (1,700 sq ft ) | 27,200 | 29,750 |
| Elementary district costs | $339,200 | $371,000 |
| 5. High school business education suite (3,465 sq ft.) | 55,400 | 60,638 |
| 6. Two general classrooms for high school (1,856 sq.ft.) | 29,696 | 32,480 |
| 7. Enlargement of the Woodworking shop (1,400 sq.ft.) | 16,800* | 18,900* |
| Secondary district costs | $101,936 | 112,018 |
| 8. Plus lump-sum estimates for enlarging bus repair shop | 1,500# | 1,500# |
| Grand total costs estimates | $442,636 | $484,518 |

The above figures do not include any allowance for an enlargement of the food service dining room on the high school site. It will be

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* For the woodshop, less costly construction was considered adequate so $12.00 and 13.50 per square foot were used.

\# No square-foot cost was estimated.

recalled that this possible project was not analyzed to see whether an enlargement was justified. Also, it may be noted that no figure is given for doing any of the suggested remodeling. It is felt that remodeling cost will be insignificant and can be handled through the expenditure of money received from sources other than from the sale of bonds, if this is desired. Then, too, no cost is given for the removal of old buildings. (Sometimes interested parties will remove buildings for the materials there.)

It is thought provoking to consider what the cost of the eight above listed projects might be in five years. If one starts with the lower of the two totals given, $442,636, and adds 5 per cent each year to the previous year's total for increased costs due to inflation, he comes up with a total cost of $564,928! Therefore, it is difficult to see any financial advantage to permanent residents of the school district to delay those projects that already are needed.

As noted in the previous chapter, the multipurpose building for grades 1-4 (Item 1 in the above list) and the two additional general classrooms for the high school (Item 6 in the above cost list) were recommended for the early 1970's. Subtracting the estimated costs of these from the above list reduces the total of the $16.00-per-square-foot column from $442,636 to $337,740, a reduction of $104,896. Similarly, subtracting these costs from the $17.50-per-square-foot column results in a reduction of $114,730, thus bringing the total down from $484,518 to $369,788. These figures should be added to architect's fees, fiscal agent's charges, costs of an election, and other expenses

incident to the processes of planning school facilities, borrowing money, and going ahead with construction.

## THE DISTRICT HAS THE BONDING CAPACITY TO FINANCE THE PROGRAM

As is commonly known, an Arizona school district may issue bonds in an aggregate amount, including existing bonded indebtedness, up to 10 per cent of the value of the taxable property within the school district as ascertained by the last assessment of state and county taxes previous to issuing the bonds. Elementary and high school districts may each bond up to the above-mentioned 10 per cent even if their boundaries are co-terminous and they have boards of trustees and boards of education made up of the same persons.

The Willcox school system is in legal actuality two school districts -- an elementary district and a high school district. Therefore, each district may bond as stated above The 1966 assessed valuation of these districts was $10,705,058. Consequently, until the 1967 assessed valuations became available each district had a bonding capacity of $1,070,505. In effect the combined Willcox public school system could bond up to $2,141,010.

After making payments on principal on bonds due on July 1, 1967, the elementary district had $380,000 in outstanding bonds while the high school district had $250,000. This then left the elementary district with a free or additional bonding capacity of $690,505. The high school district had a further available bonding potential of $820,505. With the publication of the 1967 assessed valuations should come further

potential bonding capacity in each district. From this it can be seen that the Willcox Public Schools have the bonding capacity to finance any portion or all of the proposed building program.

## THE PROPOSED BUILDING PROGRAM WOULD NOT CREATE A TAX OVERBURDEN

Willcox schools do not overburden the property owners of the district with taxes nor would the proposed building program need to create a burdensome situation even if all the proposed changes and additions were made quite promptly. The district ranks favorably tax-wise among

TABLE 4.1

A Comparison Of Willcox Combined School District Tax Rates* With Those Of The Other School Districts In Cochise County Having Memberships In Excess of 600 Pupils, 1958-1966, Inclusive

| | SCHOOL DISTRICTS | | | | | |
|---|---|---|---|---|---|---|
| Year | Willcox | Benson | Bisbee | Buena | Douglas | Tombstone |
| 1958 | 4.90 | 5.67 | 6.54 | 7.85 | 5.25 | 8.74 |
| 1959 | 4.45 | 5.15 | 5.41 | 6.70 | 4.02 | 4.99 |
| 1960 | 4.73 | 5.48 | 5.41 | 8.76 | 6.58 | 5.33 |
| 1961 | 5.61 | 6.31 | 5.55 | 6.37 | 5.50 | 9.59 |
| 1962 | 5.46 | 6.11 | 6.27 | 8.02 | 6.21 | 8.51 |
| 1963 | 6.12 | 6.18 | 6.39 | 6.90 | 5.97 | 9.29 |
| 1964 | 5.71 | 6.87 | 5.56 | 7.73 | 6.05 | 8.43 |
| 1965 | 5.66 | 7.87 | 4.82 | 6.64 | 6.37 | 7.67 |
| 1966 | 6.13 | 7.97 | 3.94 | 7.01 | 7.08 | 7.49 |

* Tax rates are based on each $100 of assessed valuation. In all cases, the cited tax rate represents the sum of the elementary and high school district tax rates.

the larger school districts of Cochise County, as Table 4.1 shows. This table lists all the school systems in the county that have both high schools and elementary schools and that have combined school memberships in excess of 600 pupils.

The 1966 tax rate of $6.13 per one hundred dollars of assessed valuation was only one cent above that of 1963. The table indicates that the Willcox schools were next to the bottom in tax rates among the six school districts listed. Among the six school systems only Bisbee had a lower tax rate than Willcox.

## School Costs In The Willcox District Are Reasonable

When one compares school costs in the Willcox School system with those in Cochise County and with the averages for the State of Arizona he finds that they are reasonable. Such a comparison is presented in Table 4.2 for the school years 1959-1960 through 1965-1966, inclusive. For the period of time shown, the total current expenses per elementary pupil in average daily attendance have consistently been below the average for Cochise County. Moreover, subsequent to 1960-1961, they have been below the average for all Arizona school districts. For the 1965-1966 school year -- the latest year for which figures were available -- the current expense per elementary school child in Willcox was $449.52 compared to a state average of $494.05. This, then, was $44.53 per pupil below the state average.

The current expenses per high school student in average daily attendance in Willcox for 1965-1966 was $20.71 below the average for

TABLE 4.2

A Comparison Of Total Current Expenses*
Per Pupil In Average Daily Attendance
1959-1966, Inclusive

| School Year | Willcox School Districts | | Average For Cochise County School Districts | | Average For All Arizona School Districts | |
|---|---|---|---|---|---|---|
| | Elem. | High School | Elem. | High School | Elem. | High School |
| 1959-1960 | 360.06 | 637.24 | 353.90 | 625.07 | 340.26 | 544.79 |
| 1960-1961 | 363.84 | 619.21 | 362 92 | 652.55 | 356 95 | 548.26 |
| 1961-1962 | 367.49 | 711.13 | 387.39 | 654.39 | 379.55 | 552.86 |
| 1962-1963 | 365.68 | 661.92 | 402.99 | 634.12 | 398.55 | 579.86 |
| 1963-1964 | 368.36 | 627.96 | 415.14 | 652.68 | 416.50 | 586.12 |
| 1964-1965 | 394.61 | 637.52 | 416.25 | 652.56 | 438 02 | 624.51 |
| 1965-1966 | 449.52 | 690.03 | 474.16 | 710.74 | 494.05 | 676.20 |

* Figures are from School Costs, an annual publication of the Arizona Tax Research Association.

the county but was $13.83 above the state average. From 1959-1960 to 1965-1966 the cost per pupil ADA in Willcox High School went up only $52.79 while the same costs in the county went up an average of $85.67 and in the state the average increased $131.41.

## The Assessed Valuation Is Climbing Significantly

Table 4.3 shows that the assessed valuation in the district has been climbing significantly. For the years shown in the table, there was an increase in assessed valuation of the district each year over the previous year. The assessed valuation went up from $6,995,115 in 1958 to

$10,705,058 in 1966 -- an increase of $3,709,943 or 53 per cent. This was an average of $463,684 per year.

TABLE 4.3

Assessed Valuations In The Willcox School District And In The City Of Willcox 1958-1966, Inclusive

| School Year | Net Assessed Valuation In School District | Net Assessed Valuation City of Willcox |
|---|---|---|
| 1958 | 6,994,115 | 976,528 |
| 1959 | 7,788,342 | 1,207,641 |
| 1960 | 8,226,347 | 1,459,542 |
| 1961 | 8,284,221 | 1,485,271 |
| 1962 | 8,449,205 | 1,452,743 |
| 1963 | 8,882,769 | 1,568,416 |
| 1964 | 9,414,521 | 1,698,058 |
| 1965 | 10,044,946 | 1,752,519 |
| 1966 | 10,705,058 | 2,019,796 |

Assessed valuation for the City of Willcox also more than doubled in the years from 1958 to 1966. Only in 1962 was it less than the year before. Although it is not possible to say whether assessed valuations in the area will continue to increase as rapidly as they have in recent years, there is reason to believe they will continue to go up. In doing so they make smaller increases in tax rates necessary to provide funds for debt service requirements than would be necessary if these valuations remained the same or went down.

## Tax Increases Could Be Kept Low By Coordinating A New Bond Redemption Schedule With The Existing One

A schedule of bond redemption and interest payments for the County of Cochise, dated July 1, 1966, was prepared by the Office of the Board of Supervisors. The Bureau studied this schedule and combined on a calendar year basis the outstanding bonded indebtedness figures for the Willcox Public Schools. It was found that the following amounts of redemption payments remain:

| Year | Amount |
|---|---|
| 1968 | $105,000 |
| 1969 | 105,000 |
| 1970 | 105,000 |
| 1971 | 100,00 |
| 1972 | 105,000 |
| 1973 | 110,000 |
| | $630,000 |

During these same years interest payments will drop from $22,387.50 to $2,800. This is a decrease of about $4,000 per year. On July 1, 1973, final payments of principal and interest are to be made.

From a study of the above information and of the assessed valuation of the district it was concluded that tax increases could be kept low by coordinating a new bond redemption schedule with the existing one. For example, it may be possible to draw up a schedule that would involve making redemption payments of only about $2,500 per $100,000 of

money borrowed during the first two years -- say 1969 and 1970. During 1971 and 1972 and 1973, perhaps $5,000 of principal could be repaid per $100,000 previously borrowed. Then during the remaining years of a ten-year period -- after the present bonds are paid off -- conceivably $15,000 to $20,000 per $100,000 of bonds could be repaid. If this could be arranged and if an interest rate of around 4 per cent was in effect, a tax rate increase of only about six cents per $100 of assessed valuation would be necessary for each $100,000 of bonds issued.

This increase would then be in effect only during the first five years. Following that a decrease in taxes for bond interest and redemption could be expected. Furthermore, if the assessed valuation continues upward as is anticipated, the approximate six-cent rate could be reduced.

Therefore, it is concluded that the sale of bonds to finance the proposed program of additions and improvements to the Willcox school plant would not create a tax overburden. In other words, the finance picture is very encouraging.

CHAPTER V

## SUMMARY AND GENERAL CONCLUSION

In the preceding chapters a report has been made of a study of school memberships, school plant facilities, and aspects of the financial picture of School District #13, Cochise County, Arizona. The study and report have been made in compliance with an agreement for educational services between the Bureau of Educational Research and Service, College of Education, The University of Arizona and the Board of Education of the above-mentioned district. The primary purpose of the survey was to assist the board and administration in drawing up a long-range plan for school plant improvement and enlargement.

The first concern was to estimate the number of pupils the district may possibly need to house in the next few years. This matter was reported in Chapter II -- an account of school membership and factors related thereto. It was pointed out that the City of Willcox has been growing in population. During the 1940's the annual increase was about 38 persons per year while from 1950 to 1965 the yearly increase averaged about 115 persons. The rate of growth, however, was found to be decelerating.

Postal receipts at the Willcox post office were found to have increased significantly, especially in recent years By 1966 these receipts had reached $79,010.54, exclusive of money order receipts. They indicated that confidence in the stability and growth of the community and its market area was justifiable.

It was found that recently the trend in agricultural employment has been downward. This trend, however, did not coincide with school membership trends. It was postulated that other factors were more influential in determining membership in school than was agricultural employment.

Through the cooperation of community groups and school personnel a census of school-age and pre-school-age children was taken as a part of the survey. The most significant inference from the census was that steadily decreasing numbers of children may be expected to be entering school in the years immediately ahead, unless some unforeseen development induces a move-in of large numbers of families with young children. This prospect of fewer children, it was noted, is in harmony with the national trends.

A review was made of the building permits record in Willcox for the period 1958 through June of 1967, inclusive. The declared value of all building permits during that time was $5,355,497. This was a sizeable amount and suggested confidence in community development. It was noted that 272 residential units were authorized under the permits but it was observed, however, that there was very little residential building activity during 1966 and the first part of 1967. Whether this was due to high interest rates on home loans or to a slowing down of growth in the area would be difficult to say with assurance.

Previous school memberships over a period of a decade or more are often reliable indicators of what the future membership picture may be. Consequently, the membership situation from 1956-1957 through 1966-1967

received considerable attention. The focus was on peak membership, since this is the membership for which the school district must provide educational opportunities. It was found that the total peak memberships for grades 1 through 12 went up over the previous year for every year until the 1966-1967 school year. Whereas the peak membership was only 859 pupils in the 1956-1957 school year, it had climbed to 1,655 by 1965-1966. In 1966-1967, however, it went downward to 1,581 pupils. As a matter of fact by May 4, 1967, the membership had slipped further to 1,546 boys and girls.

In the final section of Chapter II membership projections for the school years 1967-1968 through 1976-1977 were presented. The assumptions upon which the projections are based were carefully explained. It was estimated that for the first four grades the highest peak membership may possibly be reached in the 1968-1969 year with the estimates adding up to 624 pupils. Grades 5-8 are expected to increase year by year until 1972-1973 when the total reaches 611. After the 1968-1969 date in grades 1-4 and the 1972-1973 date in grades 5-8 it is thought that memberships will decrease, if the assumptions are valid.

The high school, in contrast, is expected to have gradual increases in membership from year to year throughout the decade ahead, starting with about 450 peak membership in 1967-1968 and going upward to nearly 600 by 1976-1977. It was pointed out that the estimates were possibilities rather than probabilities and that the figures given, in tabular form, were in reality mid-points near which the memberships would be expected to be found.

In Chapter III the study of the school plants was reported. The description of the present facilities was preceded by a review of a few important standards for school buildings and sites.

The elementary school plant consists of eleven buildings, of varying vintage, on a flat site centrally located in the City of Willcox. The structures include three parallel rows of modern classroom buildings, an administration building, a practically new facility for food services and library, an old (1921) high school building (now used for fourth grades), an old gymnasium, three old frame barracks buildings and a fairly new small structure for mechanical equipment.

Although a few problems were noted relative to the two kindergarten and 18 elementary classrooms in the modern buildings, the rooms should serve the district well for many years to come, if they are well maintained. The three general classrooms in barracks buildings do not provide satisfactory environments for learning. It was pointed out that the six classrooms currently in use in the old high school building, though substandard, have some advantages over barracks classrooms.

The elementary school administration lacks sufficient space for the activities carried on therein. The elementary school food service facility is of good size and has many commendable features, although some additional heavy equipment perhaps could be used to advantage. Some suggestions were made for developing the new library into a fine instructional materials center for use by pupils and teachers. It was concluded that the old gymnasium, unattractive though it is, still has some temporary utilitarian value for both the elementary school and the junior high school.

Facilities for grades 5-12 are arranged campus style on a fine 80-acre site, ten acres of which have been leased to the City for the development of a recreation park. Grades 5-8 utilize two, 10-room classroom buildings, a library building with an adjacent band room and some smaller rooms, an administration building that presents a problem or two, an inadequately-sized shower and locker room structure, and a portable classroom used as a developmental reading center.

The high school buildings include a modern auditorium building with administrative offices, a large gymnasium with auxiliary rooms, several classroom buildings with rooms for general and special instruction plus a library (that was found to need some attention), an industrial arts-vocational education building, and an old barracks building housing one classroom and a storage room for custodial supplies.

Also on the site is a food services building and a bus garage and equipment storage shed. Many other improvements on the site, including outdoor athletic facilities were mentioned in Chapter III but not described.

Conditions in and about the above-mentioned school facilities were discussed in some detail and a number of suggestions were made The description concluded with mention of the fact that the district has an attractive school plant for grades 5-12 and that part of this attractiveness is due to the feeling of spaciousness the facility gives. It was stated as a hope that there would be no further exception to this arrangement; namely, further "sandwiching" in between other buildings of additional structures as was done in the case of the new structure containing business education rooms.

Chapter III concluded with a lengthy discussion of school plant problems and needs. The importance of a continuous maintenance program was stressed. A few specific suggestions were made but many details were left to be reviewed with the superintendent as it was felt that by the time this report was completed much maintenance and repair work would already have been accomplished.

A study was made of the needs for classrooms for kindergarten and grades 1-4. As a result of this study and in consideration of the condition of the older buildings it was recommended that the barracks classroom buildings be removed from the site by the summer of 1970, or, if possible, in 1969. The old high school building should be scheduled for further service until the summer of 1973 at which time it should be razed. On the assumption of the availability of empty classrooms in the old high school building by the fall of 1970 or 1971, it was stated that it should be possible to remove the music barracks building and the old storage building by that time. It was further recommended that no further general classrooms be scheduled for erection on the elementary site.

A new multipurpose building, however, was proposed for the elementary site as was a room for teachers. This latter work and rest space was suggested to be placed in connection with the administration building or the library, with placement by the library having some definite advantages. When the new multipurpose building is erected, the old gymnasium should be torn down.

Purchase of the residential property adjacent to the elementary

site was suggested as something to consider for the more remote future when the houses have depreciated in value. It was also pointed out that if the schools, for some reason or other, start to grow again in membership, a second elementary school site should be procured.

A careful analysis of the usage of the facilities assigned to grades 5-8 showed that these are the grades most in need of additional facilities. Following an examination of the educational program the following important recommendations were made:

1. That a multipurpose building be erected as soon as possible.
2. That the present band room be converted into a faculty work and rest area and audio-visual space.
3. That an additional (portable) classroom be purchased or that two more permanent classrooms be built.

Similarly, a utilization study was made of high school facilities. Changes in and additions to the plant were considered with due regard for this utilization study, the future membership projections, and possible better arrangements. The following recommendations then were made:

1. That the barracks building be retired from service as a classroom facility as soon as permanent classrooms could be erected to replace it and to take care of additional needs.
2. That a business education building be erected as soon as possible.
3. That the classrooms presently named Business A and Business B be used for general academic purposes.
4. That two more general classrooms be planned for the early 1970's.

5. That the library be redesigned and furnished to convert it into a true library and curriculum materials center

6. That classroom number four be further equipped for full-time use as a general science classroom.

7. That the woodworking shop be enlarged.

8. That the present typing room be converted to a faculty work and rest area.

9. That the present faculty work and rest area be assigned to counseling and guidance.

10. That the office formerly occupied by the superintendent and just recently assigned to counseling and guidance be turned over to the high school principal as a bookstore and school supplies storage room and, if there is enough space, a conference room.

Some enlargement of the bus garage was also suggested. Chapter III ended with a comment that it may also be necessary to enlarge the dining room of the foods service building.

Chapter IV considered certain aspects of the financial picture in District #13. First of all the costs of the proposed building program were considered. On the basis of square foot costs (a very rough basis for estimating costs but nevertheless a preliminary guide) estimates totaled $442,636 with most areas figured at $16.00 per square foot and $484,518 when a $17.50-per-square-foot figure was used for most of the areas involved.

These figures did not include money for an addition to the high school foods service building since the need for such has not been ascertained. Also, architect's fees, fiscal agent's commission, and election costs were not included. It was calculated that if the lower of the above two figures was used as a base and 5 per cent per year was

added each year because of inflation, the cost of the facilities after five years would be about $565,000! Removing the cost of the facilities not immediately needed (two high school classrooms and the elementary school multipurpose building) would cut the estimates from $442,636 to $337,740 or from $484,518 to $369,788, respectively. Remodeling costs, which should not be too high, would be in addition to this as would certain maintenance work, for example, resurfacing parking lots with more permanent covering.

Analysis of the bonding capacity of the district showed that the district has ample available or unencumbered bonding capacity to finance the entire program. After July 1, 1967 payments for bond redemption, the elementary system had additional bonding capacity of $690,505 while the high school system had $820,505 of unencumbered bonding capacity. These would increase further with upward revisions of assessed valuations.

It was stated that school costs in the elementary and high school systems are reasonable. Comparisons of per pupil costs with Cochise County and state averages showed the district to be in a favorable position. It was also shown that the Willcox Public Schools rank favorably tax-rate-wise among the seven largest school systems of Cochise County. In fact, with its 1966 combined tax rate $6.13 per one hundred dollars of assessed valuation, it had next to the lowest tax rate among the seven school systems studied.

Furthermore, it was seen that the assessed valuation of the district has been climbing significantly for many years. It went up an

average of $63,684 per year from 1958 through 1966, the change being from $6,995,115 to $10,705,058.

Finally, it was decided that the proposed building program would not create a tax overburden. Tax increases could be kept low by co-ordinating a new bond redemption schedule with the existing one. For example, a schedule was shown that should not involve a raise of more than $100,000 of new bonds sold.

The general conclusion arrived at by the Bureau should be quite obvious at this point. The school district should move forward with the school building program outlined in this report. Although the Willcox Public Schools have many excellent school plant facilities, there is no question but what there are some very definite needs. The district is in a position to fill these needs if the qualified voters of the district are willing to give their consent.

In the end it is the people who must decide what shall be done. They should be given the opportunity to study the data and make their decision. Consent will make possible better educational opportunities for their children and youth.